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APPROVED PLANNING ANALYSIS/  
DECISION RECORD  
MOSQUITO CREEK LAKE

RECEIVED

MAY 08 2000

BUREAU OF LAND MANAGEMENT  
MILWAUKEE FIELD OFFICE

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## INTRODUCTION

This document records the decision reached by the Bureau of Land Management (BLM) for management of the Federal oil and gas resources at the Corps of Engineers' (COE) Mosquito Creek Lake Project, Trumbull County, Ohio.

## DECISION

I have decided to approve the Mosquito Creek Lake Planning Analysis (PA). Federal oil and gas resources at Mosquito Creek Lake are available for leasing subject to stipulations identified in the Proposed PA and COE consent decision. As a condition of consent, the COE identified one additional lease stipulation which requires a no surface occupancy restriction on lands within 200 feet of the COE administrative boundary (see attachment 1).

I have decided to offer Federal oil and gas resources at Mosquito Creek lake for lease subject to the following BLM/COE surface and subsurface use restrictions:

- No surface occupancy is permitted for well sites or other permanent structures on COE lands. This restriction will not be waived, excepted, or modified. The COE may grant easements for buried pipelines on Federal lands on a case-by-case basis.
- No surface occupancy is permitted for well sites or other permanent structures on lands within 200 feet of the COE administrative boundary. This restriction may be waived for future wells which are proposed to be co-located on two existing well sites currently located within the 200' foot setback (see attachment 2). Drilling operations would be prohibited between the Memorial Day and Labor Day week-ends at both of these sites.
- No surface occupancy is permitted for well sites or other permanent structures on the Lakeview Local School District property (shown on Map 1, page 1-2 of the Draft PA/EA). This restriction will not be waived, excepted, or modified.
- No surface or subsurface occupancy is permitted for well sites or other permanent structures on tracts A-146 and A-138 west of the intersection of Warren-Meadville Road and State Route 305. Directional drilling from the surface of private property to extract Federal minerals from under the lake may be considered on a case-by-case basis in the low embankment areas west of tract A-146 and east of the intersection of Warren-Meadville Road and State Route 305.







Appendix A of the Draft PA/EA outlines existing laws, regulations, and orders applicable to oil and gas operations. In addition to existing controls, special measures were identified during the analysis process to mitigate impacts associated with oil and gas development. Measures deemed appropriate as "lease notices" are included in Attachment 3. The primary purpose of a lease notice is to notify the lessee that certain resource values may exist in the lease area and special protection measures may be necessary if operations are proposed. Lease notices address special items the lessee should consider when planning operations.

Mitigation measures that were not raised to the level of a lease notice will be assessed on a site specific basis and will be attached as conditions of approval to Federal drilling permits or terms of agreement to Communitization Agreements. Both lease notices and conditions of approval/terms of agreement would apply to federally permitted wells and private wells participating in a Communitization Agreement, as appropriate.

#### ALTERNATIVES ANALYZED

Two alternatives were analyzed in detail in the Draft PA/EA. These included Alternative A, the No Action/No Lease alternative and Alternative B, the Lease with No Surface Occupancy alternative. The Proposed PA/EA identified Alternative B as the proposed plan for management of the Federal oil and gas resources. A summary of the two alternatives analyzed is presented below.

Under Alternative A, Federal oil and gas resources would not be available for lease, i.e., no Federal leases would be issued and no Federal wells would be drilled. However, under this alternative, some of the Federal oil and gas could be developed by "pooling" the unleased Federal minerals with private minerals through a Federal agreement called a Compensatory Royalty Agreement. It is predicted that up to 14 private wells may be drilled from 14 well pads even if no Federal leasing occurs. Federal oil and gas would be produced through these private wells.

Under Alternative B, Federal oil and gas resources would be available for lease and Federal leases would be issued subject to surface/subsurface use stipulations identified on page one of this document. These stipulations would prohibit location of well sites or other permanent facilities on or within 200 feet of COE lands. Federal oil and gas resources would be developed through either: (1) directionally drilled Federal wells located on private lands adjacent to the State/COE property, or (2) pooling leased Federal minerals with private minerals through a Federal agreement called a Communitization Agreement. It is anticipated that the 14 private wells projected under Alternative A would be included in Federal agreements. In addition, it is projected that 27 federally permitted wells would be directionally drilled from adjacent private land into Federal oil and gas. The 41 wells would be developed from 24 well pads located on adjacent private land.



Appendix A of the Draft EIS contains existing laws, regulations, and orders applicable to oil and gas operations. In addition to existing laws, special measures were identified during the review process to address impacts associated with oil and gas development. Federal laws, executive orders, and regulations are identified in Appendix B. The primary purpose of a lease is to provide the lessee with certain rights and interests in the land and minerals. Leasehold interests may be conveyed by deed, lease, or other instrument. Leasehold interests are typically conveyed by deed.

Leasehold interests that were not listed in the list of a lease will be treated as a lease. Leasehold interests will be treated as a lease if they are conveyed by deed, lease, or other instrument. Both leasehold and leasehold interests are conveyed by deed. Leasehold interests are typically conveyed by deed, lease, or other instrument. Leasehold interests are typically conveyed by deed, lease, or other instrument.

#### ALTERNATIVE A

The alternatives were analyzed in detail in the Draft EIS. These included Alternative A, the proposed project, and Alternative B, the proposed project with No Surface Coal. The proposed project is described in the Draft EIS. A summary of the two alternatives is provided below.

Under Alternative A, Federal oil and gas resources would not be available for lease, i.e., no leasehold interests would be created and no Federal wells would be drilled. However, under the proposed project, the Federal oil and gas resources would be developed by "pooling" the resources. The proposed project would create a Federal agreement called a "pooling" agreement. It is estimated that up to 14 private wells may be drilled from 14 well pads. The proposed project would create a Federal oil and gas resource. Federal oil and gas would be produced through these private wells.

Under Alternative B, Federal oil and gas resources would be available for lease and Federal leasehold interests would be created and no Federal wells would be drilled. However, under the proposed project, the Federal oil and gas resources would be developed by "pooling" the resources. The proposed project would create a Federal agreement called a "pooling" agreement. It is estimated that up to 14 private wells may be drilled from 14 well pads. The proposed project would create a Federal oil and gas resource. Federal oil and gas would be produced through these private wells.



## MANAGEMENT CONSIDERATIONS/DECISION RATIONALE

The environmental assessment documented in the Draft and Proposed PA/EAs (MDO-ES98-013) and the Finding of No Significant Impact (FONSI) (page 55 of the Proposed PA/EA) provide the basis for a decision to lease the Federal oil and gas resources at Mosquito Creek Lake. Under the Mineral Leasing Act for Acquired Lands of August 7, 1947, BLM cannot make a leasing decision at Mosquito Creek Lake without COE consent. The COE consent decision (attachment 1) considered potential impacts as documented in the referenced PA/EAs. As a cooperating agency, the COE concurred with the BLM FONSI.

The majority of the COE lands at Mosquito Creek Lake are leased or licensed to the Ohio Department of Natural Resources (ODNR), Divisions of Wildlife and Parks/Recreation. In addition, one 32 acre parcel where the surface is owned by the Lakeview Local School District (LLSD) was analyzed in the PA/EA. The development of the Draft and Proposed PA/EAs was coordinated with the COE, ODNR, and LLSD. Existing land use plans and management prescriptions for the Federal, State and LLSD lands were considered and incorporated into the impact analysis process, as appropriate. In addition to the BLM/COE surface and subsurface use restrictions, the ODNR identified the following restriction regarding occupancy of State owned lands: No occupancy will be permitted for well sites, other permanent structures, or pipelines on lands identified as the ODNR State Park or Wildlife Area. The ODNR Division of Parks and Recreation may grant subsurface easements for directional drilling through State owned minerals on a case-by-case basis. The LLSD recommended, and BLM proposes, a no surface occupancy restriction on the LLSD tract. All surface management entities assisted in the identification of mitigation measures necessary to protect resource values at Mosquito Creek Lake.

As described in the two alternatives, it is projected that some level of development would occur under either option. Due to surface occupancy restrictions, any development that occurs as a result of leasing would take place from adjacent private lands. Total acreage of initial disturbance for Alternatives A and B is 62 and 77 acres, respectively. Areas not needed for production related facilities would be revegetated. It is estimated that acreage unreclaimed but stabilized for Alternatives A and B would total 7 and 12 acres, respectively.

Oil and gas development is not new to this area. Since 1975, approximately 120 wells have been drilled in Bazetta Township within one mile of the Corps of Engineers' administrative boundary. According to the ODNR, Division of Oil and Gas, there are 178 producing oil and gas wells throughout Bazetta, Mecca, and Greene Townships. The findings of the U.S. Geological Survey study<sup>1</sup> completed in 1998 indicate that existing controls related to oil and gas development at Mosquito Creek Lake have been successful in mitigating impacts to the water quality.

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<sup>1</sup>U.S. Geological Survey, 1998. Barton, Gary J., Robert C. Burrus, and Robert T. Ryder. "Water Quality in the Vicinity of Mosquito Creek Lake, Trumbull County, Ohio, in Relation to the Chemistry of Locally Occurring Oil, Natural Gas and Brine". U.S. Geological Survey Water-Resources Investigations Report 98-4180. Columbus, OH.



MANAGEMENT CONSIDERATIONS: DECISION RATIONALE

The environmental assessment document in the Draft and Proposed PAEAs (MDO-E238-013) and the Finding of No Significant Impact (FONSI) (page 32 of the Proposed PAEA) provide the basis for a decision to issue the Project oil and gas leases at Mosquito Creek Lake. Under the National Leasing Act for Federal Lands of August 7, 1954, BLM cannot make a leasing decision at Mosquito Creek Lake without COE consent. The COE consent decision (attachment 1) considered potential impacts as documented in the referenced PAEAs. As a cooperating agency, the COE is in agreement with the BLM proposal.

The majority of the COE lands at Mosquito Creek Lake are leased or licensed to the Ohio Department of Natural Resources (ODNR) Division of Wildlife and Parks (DWP). In addition, one 12 acre parcel where the water is owned by the Lakeview Local School District (LLSD) was included in the PAEA. The development of the Draft and Proposed PAEAs was coordinated with the COE, ODNR and LLSD. Leasing land was done and management planning made for the Federal State and LLSD lands were coordinated and incorporated into the impact analysis process as appropriate. In addition to the BLM/COE surface and subsurface use requirements, the ODNR provided the following restriction regarding occupancy of State owned lands: no occupancy will be permitted for well sites, other permanent structures, or pipelines on lands identified in the ODNR State Park or Wildlife Area. The ODNR Division of Parks and Recreation may grant occupancy for recreational drilling through State owned minerals on a case-by-case basis. The LLSD recommended, and BLM proposed, a no surface occupancy restriction on the LLSD land. All surface management activities related to the identification of vegetation resources necessary to protect resource values at Mosquito Creek Lake.

As described in the two alternatives, it is projected that some level of development would occur under either option. Due to surface occupancy restrictions, any development that occurs as a result of leasing would take place from adjacent private lands. Total acreage of mineral disturbance for Alternatives A and B is 61 and 77 acres, respectively. Areas not needed for production related activities would be revegetated. It is estimated that average revegetation for Alternatives A and B would total 7 and 12 acres, respectively.

Oil and gas development is not new to this area. Since 1935, approximately 120 wells have been drilled in Western Township within and north of the Ohio of Engineers' administrative boundary. According to the ODNR, Division of Oil and Gas there are 175 producing oil and gas wells throughout Western, Jackson, and Greene Townships. The findings of the U.S. Geological Survey study completed in 1998 indicate that existing capacity related to oil and gas development at Mosquito Creek Lake have been successful in reducing impacts to the water quality.

U.S. Geological Survey, 1998, Western Township, Ohio, in relation to the Chemistry of Leaky Gas and Water, U.S. Geological Survey, Great Lakes, Western, Jackson, and Greene Townships, Ohio, in relation to the Chemistry of Leaky Gas and Water, U.S. Geological Survey, Western American Investigation Report - 98-01, Columbus, OH.



## COMPLIANCE/MONITORING

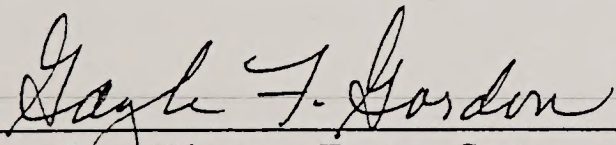
The Draft and Proposed PA/EAs outline BLM's proposed inspection and monitoring actions. BLM has committed to monitoring site construction, drilling and production operations on any wells that may be drilled as a result of leasing at Mosquito Creek Lake (pages 11-12 of the Proposed PA/EA). Due to the fact that the lake serves as a primary source of drinking water for adjacent communities, these inspections will be given high priority.

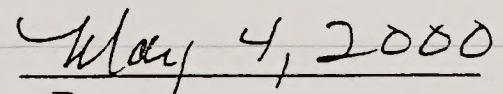
## PUBLIC PARTICIPATION

BLM made a diligent effort to involve the public in the development of the Mosquito Creek Lake PA/EA as directed by the National Environmental Policy Act in Title 40, Part 1506.6 of the Code of Federal Regulations. Thirteen public meetings/open houses/field trips were sponsored or attended by BLM representatives throughout the process. The views and opinions of the public were sought through publication of formal notices, public meetings, working meetings, media releases and direct mailings. Details of the public participation process are outlined in Chapter Five of the Draft PA/EA. Following release of the Draft PA/EA, two public meetings were held in Trumbull County to receive public comments. Responses to both oral and written comments provided during the 60-day public review period are found in the Proposed PA/EA.

## PROTESTS TO THE PROPOSED PA/EA

The Proposed PA/EA was completed and mailed to the public on October 13, 1998. A Notice of Availability was printed in the *Federal Register* on October 16, 1998 (Vol. 63, No. 200, page 55636). This initiated a mandatory 30-day protest period. During the protest period, the BLM Washington Office received a total of seven protest letters. In addition, one letter was received after the close of the protest period. Issues raised in the protest letters include concerns relating to water quality, emergency response capability, inspection/monitoring capability, and cost/benefit analysis. All protests were dismissed. The BLM Assistant Director concluded that the BLM State Director, Eastern States, and the Milwaukee Field Office Manager followed the applicable planning procedures, laws, regulations, policies, and resource considerations in developing the Mosquito Creek Lake PA/EA.

  
\_\_\_\_\_  
State Director, Eastern States

  
\_\_\_\_\_  
Date







DEPARTMENT OF THE ARMY  
ENGINEERING DISTRICT, CORPS OF ENGINEERS  
WILLIAM S. MCGOWAN FEDERAL BUILDING  
1000 COUNTY AVENUE  
PORTER, PA 15083-0001

JULY 27 1999

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AUG 02 1999

Real Estate Division  
Management and Disposal Branch

BUREAU OF LAND MANAGEMENT  
MILWAUKEE FIELD OFFICE

United States Department of the Interior  
Bureau of Land Management  
Milwaukee Field Office  
Attn: James W. Dryden  
Field Office Manager  
P.O. Box 581  
Milwaukee, Wisconsin 53201

Dear Mr. Dryden:

Reference is made to your letter dated June 3, 1999, requesting a decision regarding consent to leave Federal minerals. The Corps of Engineers (COE) hereby consents to the leasing of the Federal land and gas resources at Mosquito Creek Lake, subject to the surface and subsurface use conditions listed in the attached COE land analysis. The analysis includes a 200-foot buffer zone around the lake. In addition, to ensure the proper operation of Mosquito Creek Lake, the Corps will be required to be deposited.

ATTACHMENT 1

Corps of Engineers' Consent Decision  
Letters dated July 27, 1999  
and September 23, 1999

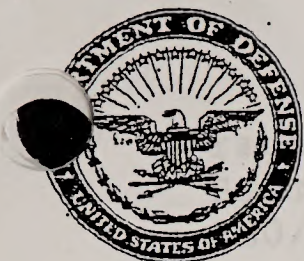
The Bureau of Land Management (BLM) is the Federal lead agency with responsibility for preparing and processing the NEPA document for leasing Federal minerals. In this case, the PA/EA and FONSI (Finding of No Significant Impact). We have worked closely with your staff in preparing these NEPA documents. Therefore, as a cooperating agency, the COE hereby states its concurrence with the BLM FONSI.

The special measures identified in the PA/EA should be implemented and monitored in order to mitigate the impacts associated with oil and gas development. We believe your agency's inspection and monitoring actions to be extremely critical given the importance of Mosquito Creek Lake to the surrounding communities. In addition, the COE should be notified and given the opportunity to participate in any pre-drilling inspections scheduled by the BLM. In that



ATTACHMENT I  
Corps of Engineers' Consent Decision  
Letters dated July 17, 1999  
and September 13, 1999





REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
PITTSBURGH DISTRICT, CORPS OF ENGINEERS  
WILLIAM S. MOORHEAD FEDERAL BUILDING  
1000 LIBERTY AVENUE  
PITTSBURGH, PA 15222-4186

JULY 27 1999

RECEIVED

AUG 02 1999

Real Estate Division  
Management and Disposal Branch

BUREAU OF LAND MANAGEMENT  
MILWAUKEE FIELD OFFICE

United States Department of the Interior  
Bureau of Land Management  
Milwaukee Field Office  
Attn: James W. Dryden  
Field Office Manager  
P.O. Box 631  
Milwaukee, Wisconsin 53201

Dear Mr. Dryden:

Reference is made to your letter dated June 3, 1999, requesting a decision regarding consent to lease Federal minerals. The Corps of Engineers (COE) hereby consents to the leasing of the Federal oil and gas resources at Mosquito Creek Lake, subject to the surface and subsurface use conditions listed in the Mosquito Creek Lake Planning Analysis/Environmental Assessment (PA/EA). These conditions include a "No Surface Occupancy" restriction on COE land. In addition, to further satisfy our concerns for the operation of Mosquito Creek Lake, a mandatory 200 foot setback from the entire Federal boundary for all wells must be imposed.

The Bureau of Land Management (BLM) is the Federal lead agency with responsibility for preparing and processing the NEPA document for leasing Federal minerals; in this case, the PA/EA and FONSI (Finding of No Significant Impact). We have worked closely with your staff in preparing these NEPA documents. Therefore, as a cooperating agency, the COE hereby states its concurrence with the BLM FONSI.

The special measures identified in the PA/EA should be implemented and monitored in order to mitigate the impacts associated with oil and gas development. We believe your agency's inspection and monitoring actions to be extremely critical given the importance of Mosquito Creek Lake to the surrounding communities. In addition, the COE should be notified of and given the opportunity to participate in any pre-drilling inspections scheduled by the BLM. In that





DEPARTMENT OF THE ARMY  
PITTSBURGH DISTRICT, CORPS OF ENGINEERS  
WILLIAM E. HOODS, FEDERAL BUILDING  
1000 LEXINGTON AVENUE  
PITTSBURGH, PA 15203-1500

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AUG 02 1988

JULY 27 1988

BUREAU OF LAND MANAGEMENT  
NATURAL RESOURCES DIVISION

Field Station Division  
Management and Disposal Branch

United States Department of the Interior  
Bureau of Land Management  
Wilderness Field Office  
Attn: James W. Bryson  
Field Office Manager  
P.O. Box 551  
Winchester, Massachusetts 01890

Dear Mr. Bryson:

Reference is made to your letter dated June 3, 1988, requesting a decision regarding consent to lease Federal minerals. The Corps of Engineers (COE) hereby consents to the leasing of the Federal-owned and subsurface use of the land subject to the surface and subsurface use conditions listed in the Mosquito Creek Lake Planning Analysis Environmental Assessment (PAEA). These conditions include a "No Surface Occupancy" restriction on COE land. In addition, to further satisfy our concerns for the operation of Mosquito Creek Lake, a mandatory 200 foot setback from the entire Federal boundary for all wells must be imposed.

The Bureau of Land Management (BLM) is the Federal lead agency with responsibility for preparing and processing the lease agreement for leasing Federal minerals in this case. The PAEA and FONSI (Finding of No Significant Impact) we have worked closely with your staff in preparing their NEPA documents. Therefore, as a cooperating agency, the COE hereby states its concurrence with the BLM FONSI.

The special measures identified in the PAEA should be implemented and monitored in order to mitigate the impacts associated with oil and gas development. We believe your agency's inspection and monitoring actions to be extremely critical given the importance of Mosquito Creek Lake to the surrounding communities. In addition, the COE should be notified of and given the opportunity to participate in any pre-drilling inspections scheduled by the BLM. In that

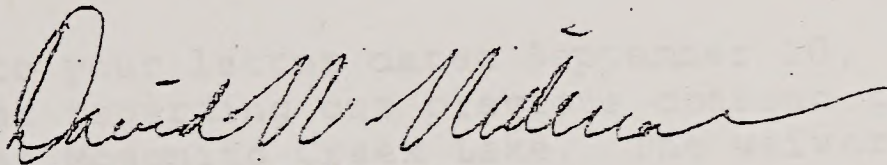


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In regard, we request that you coordinate directly with Mr. Leo Summers, the Mosquito Creek Lake Resource Manager, at 330/638-7312.

The title report for the COE tracts at Mosquito Creek Lake furnished to your agency on December 14, 1995 is still a valid report. Your staff should contact Ms. Maria Mignone in our Real Estate Division, for any additional information, if necessary.

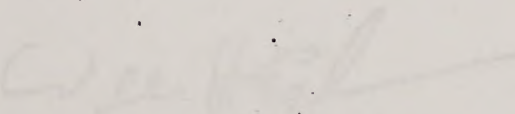
Should you or your staff have any questions regarding this consent, please call Ms. Mignone at 412/395-7128, or Mr. James Purdy in our Planning Division at 412/395-7224.

Sincerely,



David R. Ridenour  
Colonel, Corps of Engineers  
District Engineer

Sincerely,



William V. Graham  
Major, Corps of Engineers  
District Engineer



130/652-7232  
In regard, we request that you coordinate directly with Mr. Leo  
Bumgarner, the Memphis Press-Scimitar's Resource Manager, at

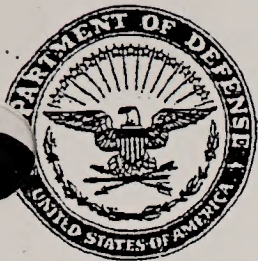
The state report for the COE project is being prepared. It is still  
being reviewed by your agency on December 14, 1993. It will  
be a brief report. Your state should contact Mr. Mario Wilson  
in our Real Estate Division, for any additional information,  
if necessary.

Should you or your staff have any questions regarding  
this comment, please call Mr. Wilson at 412/382-7118, or  
Mr. James Brady in our Planning Division at 412/382-7234.

Sincerely,

  
David A. Ridenour  
Colonel, Corps of Engineers  
District Engineer





DEPARTMENT OF THE ARMY  
PITTSBURGH DISTRICT, CORPS OF ENGINEERS  
WILLIAM S. MOORHEAD FEDERAL BUILDING  
1000 LIBERTY AVENUE  
PITTSBURGH, PA 15222-4186

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SEP 30 1999

BUREAU OF LAND MANAGEMENT  
MILWAUKEE FIELD OFFICE

REPLY TO  
ATTENTION OF

SEPTEMBER 23 1999

Real Estate Division  
Management and Disposal Branch

United States Department of the Interior  
Bureau of Land Management  
Milwaukee Field Office  
Attn: James W. Dryden  
Field Office Manager  
P.O. Box 631  
Milwaukee, Wisconsin 53201

Dear Mr. Dryden:

Reference is made to your letter dated September 10, 1999, requesting a waiver regarding our previous consent to lease Federal minerals at Mosquito Creek Lake. The waiver sought would relax the 200 foot setback requirement for two existing well sites located within the 200 foot boundary.

We have no objection to the requested waiver from the setback requirement for the two well sites referenced in your letter; however, we request an additional stipulation be attached to the site on the east side of the lake. Since this site is not located adjacent to a developed recreation area, it will not be protected by the provision in the PA/EA which prohibits well drilling between Memorial and Labor Day. We would request that the drilling limitation be extended to this well site as it is located near the Route 305 access to the lake and the Bazetta Township Park. Drilling during the recreation season would have an adverse impact on these areas.

Should you or your staff have any questions, please call Ms. Maria Mignone in our Real Estate Division at 412/395-7128, or Mr. James Purdy in Planning Division at 412/395-7224.

Sincerely,

William H. Graham  
Major, Corps of Engineers  
Deputy District Engineer





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SEP 30 1953

ENGINEERING MANAGEMENT  
RECEIVED

DEPARTMENT OF THE ARMY  
ENGINEERING DISTRICT OFFICE  
WILLIAM E. HUGHES, DISTRICT ENGINEER  
1000 LEXINGTON AVENUE  
NEW YORK 17, NEW YORK

SEPTEMBER 23 1953



Real Estate Division  
Management and Disposal Branch

United States Department of the Interior  
Bureau of Land Management  
Milwaukee Field Office  
Room 1000, Tower B, Dryden  
Field Office Manager  
P.O. Box 830  
Milwaukee, Wisconsin 53201

Dear Mr. Dryden:

Reference is made to your letter dated September 10, 1953, requesting a waiver regarding our previous consent to issue Federal Grants at Waupaca Creek Lake. The waiver sought would relax the 100 foot setback requirement for two existing well sites located within the 100 foot boundary.

We have no objection to the requested waiver from the setback requirement for the two well sites referenced in your letter. However, we request an additional stipulation be attached to the site on the east side of the lake. Since this site is not located adjacent to a developed recreation area, it will not be protected by the provision in the FWSA which prohibits well drilling between Memorial and Labor Cts. We would request that the drilling limitation be extended to this well site as it is located near the Route 305 access to the lake and the Barstow Township Park. During the recreation season there would be an adverse impact on these areas.

Should you or your staff have any questions, please call Mr. M. M. Mignone in our Real Estate Division at 412-552-7158, or Mr. James Rudy in Planning Division at 412-552-7354.

Sincerely,

William E. Hughes  
Major, Corps of Engineers  
District Engineer



Existing Well Locations Within 200 Feet of COE Property Boundary

~~ATTACHMENT 2~~  
Existing Well Site Locations  
Where COE 200 foot Setback  
from Administrative Boundary  
May Be Waived

0 2000 Feet



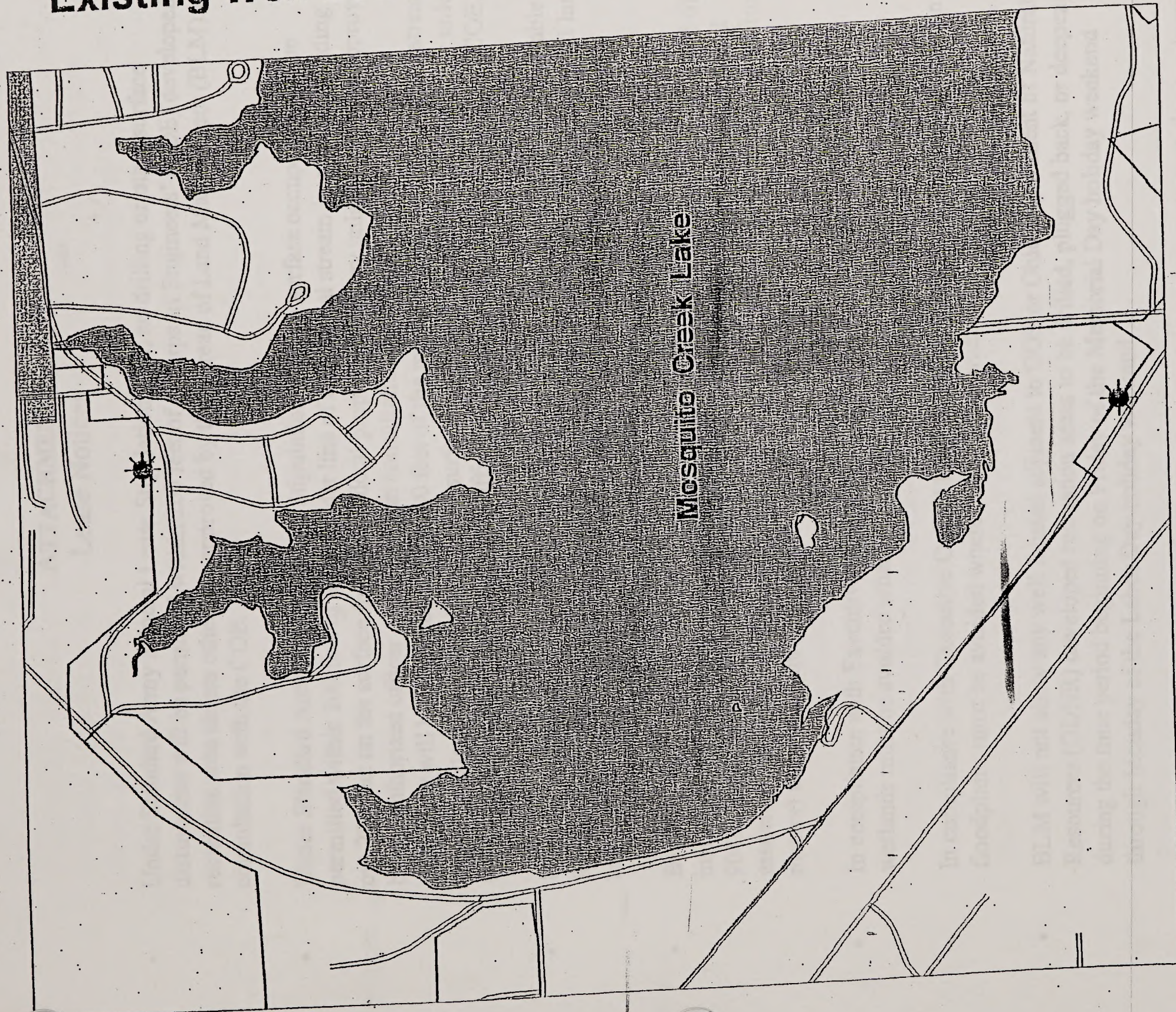
- \* Existing Wells
- State Parks
- Federal Property
- Water



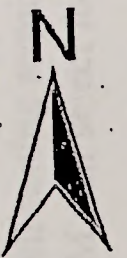
ATTACHMENT 2  
Existing Well Site Locations  
Water COE 200 foot Setback  
from Administrative Boundary  
May Be Waived



# Existing Well Locations Within 200 Feet of COE Property Boundary

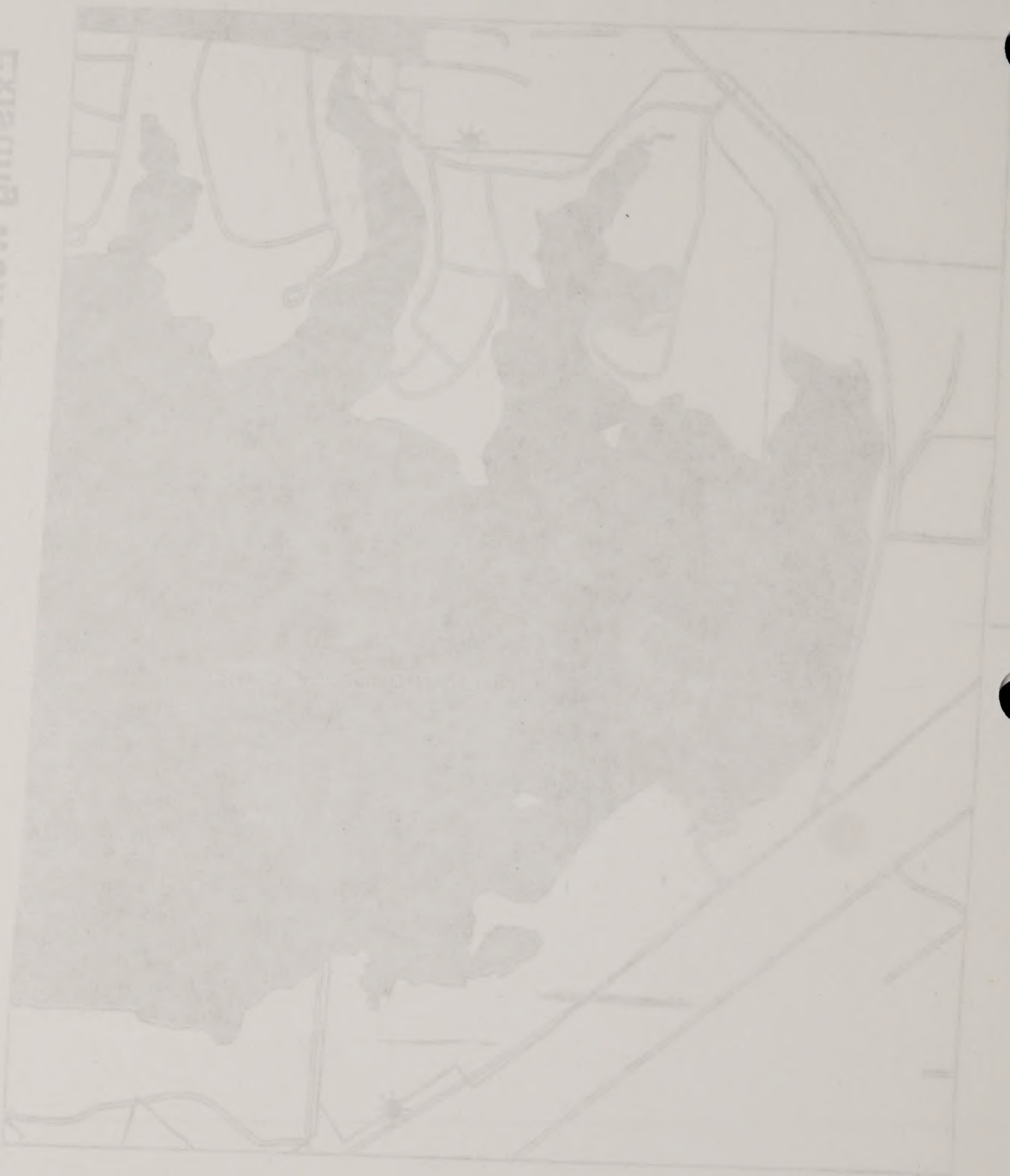


- Existing Wells
- Roads
- State Parks
- Federal Property
- Water



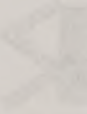
0 2000 Feet





0 5000 Feet



-  Major Federal Property
-  State Parks Roads
-  Existing Wells

Existing Well Locations Within 500 Feet of COE Property Boundary



## ATTACHMENT 3

### Lease Notices

- Under Standard Army Mineral Lease Stipulation # 14, no drilling or other surface disturbance will be permitted within 200 feet of a Corps of Engineers' (COE) developed recreation area unless otherwise approved by the Bureau of Land Management (BLM) in consultation with the COE.
- Under Standard Army Mineral Lease Stipulation # 21, no surface occupancy will be permitted within 200 feet of the meander line of a perennial stream in a zone extending out 200 feet on the surface from the Federal property boundary unless otherwise approved by the authorized officer of the BLM in consultation with the COE. No surface occupancy will be permitted within 100 feet of the meander line of an intermittent stream in a zone extending out 100 feet on the surface from the Federal property boundary unless otherwise approved by the authorized officer of the BLM in consultation with the COE.
- Under Standard Army Mineral Lease Stipulation # 24, oil and gas lessees will be liable for pollution or other damages, as a result of their operations, to Government owned lands and property and to the property of the Government's authorized surface user.
- Based on COE standard stipulations, BLM will not approve operations that involve installation of permanent above ground structures at or below the full-pool elevation of 904.0 feet. These structures include, but are not necessarily limited to, wellhead and associated artificial lift equipment, tank batteries (oil and brine storage tanks, separators, meters) and gas compressors.
- In compliance with Executive Order 11990, Protection of Wetlands, development in wetlands must be avoided wherever there is a practicable alternative.
- In compliance with Executive Order 11988, Floodplain Management, development in floodplains must be avoided wherever there is a practicable alternative.
- BLM will not allow any well located adjacent to COE or Ohio Department of Natural Resources (ODNR) developed recreation areas to be drilled, plugged back, or deepened during the time period beginning on Friday of the Memorial Day holiday weekend through Monday of the Labor Day holiday weekend.
- BLM will not allow well servicing operations or workover procedures to be conducted on any producing well located adjacent to COE and ODNR developed recreation areas between 10:00 p.m. and sunrise from Memorial Day to Labor Day.
- Lessees/operators will be required to conduct water well testing prior to any operations. Specific water well testing requirements will be developed at the time an oil and gas well is proposed. BLM will select four nearby wells to be sampled and tested. Samples shall



## ATTACHMENT 2

### Lease Notices

Under Standard Army Mineral Lease Specification 8-14, no drilling or other surface disturbance will be permitted within 100 feet of a Corps of Engineers' (COE) developed resource area unless such activity is approved by the Bureau of Land Management (BLM) in consultation with the COE.

Under Standard Army Mineral Lease Specification 8-21, no surface occupancy will be permitted within 100 feet of the boundary line of a potential system in a zone extending out 100 feet on the surface from the Federal property boundary unless otherwise approved by the authorized officer of the BLM in consultation with the COE. No surface occupancy will be permitted within 100 feet of the boundary line of an intermittent stream or a wet or marshy area 100 feet or more from the Federal property boundary unless otherwise approved by the authorized officer of the BLM in consultation with the COE.

Under Standard Army Mineral Lease Specification 8-14, oil and gas leases will be placed for public or private use, at a point of their operation, in Government-owned lands and property and in the property of the Government's authorized surface use.

Based on COE standard specifications, BLM will not approve operations that involve installation of permanent above ground structures at or below the full pool elevation of 504.5 feet. These structures include, but are not necessarily limited to, wellhead and associated surface life support tank batteries (oil and brine storage tanks, separators, meters) and the connections.

In compliance with Executive Order 11659, Protection of Wetlands, development in wetlands must be avoided wherever there is a practicable alternative.

In compliance with Executive Order 11652, Fishery Management development in floodplains must be avoided wherever there is a practicable alternative.

BLM will not allow any well located adjacent to COE or Ohio Department of Natural Resources (ODNR) developed resource areas to be drilled, plugged back, or decommissioned during the time period beginning on Friday of the Memorial Day holiday weekend through Monday of the Labor Day holiday weekend.

BLM will not allow well servicing operations or wellbore procedures to be conducted on any producing well located adjacent to COE or ODNR developed resource areas between 10:00 p.m. and sunrise from Memorial Day to Labor Day.

Lease operations will be required to conduct water well testing prior to any operations. Specific water well testing requirements will be developed at the time an oil and gas well is proposed. BLM will select four nearby wells to be sampled and tested. Samples shall



be collected in approved containers and tested in laboratories using Ohio Environmental Protection Agency's test methods, including appropriate quality assurance/quality control, and parameters would have errors not to exceed percentages defined by method and concentration. The tests will include, but not be limited to, testing for the presence of: carbonates and bicarbonates (mg/l); filtered sample for water soluble barium (filtered unpreserved sample) ( $\mu\text{g/l}$ ); calcium (mg/l); chloride (mg/l); magnesium (mg/l); potassium (mg/l); sodium (mg/l); sulfate (mg/l); and residue as total filterable residue (mg/l). Test results will be filed with the BLM and Ohio Department of Natural Resources, Groundwater Protection Section, and the township Zoning Inspector, if applicable.

- Proposed well location and associated facilities will not be approved if within one-half mile of an active bald eagle nest or an established bald eagle nesting territory.
- Within potential Indiana bat habitat, suitable maternity roost trees (cavities and/or exfoliating bark) shall be avoided, if possible. If such trees must be removed, they cannot be cut down between the period of April 15 through September 15. If potential roost trees are present and the time restriction is unacceptable, mist net surveys, or other surveys, should be conducted to determine if bats are present. If the survey determines that Indiana bats do not inhabit the area, the identified trees may be cut down any time of year. Lessees/operators would be responsible for contracting completion of surveys.
- Disturbances in massasauga rattlesnake habitat shall be avoided, if possible. Seasonal restrictions may be applied. Site inspections will be made to determine the potential for the presence of the massasauga or its habitat. If indicated, a survey would be required to document that the massasauga does not inhabit the area. If it is determined that the massasauga is present or potential habitat exists, surface disturbance will not be permitted from mid April through the end of October. Surface disturbance will also not be permitted if a site is identified as massasauga winter habitat. Lessees/operators would be responsible for contracting completion of surveys.
- BLM will not allow any producing well located adjacent to COE or ODNR developed recreation areas to emit noise which, when measured at the nearest developed recreation area, exceeds 45 dB(A).
- BLM will require special noise reduction measures for well drilling, completion and production operations proposed adjacent to noise sensitive areas including, but not limited to, residences or residential allotments, the Bazetta Township Park, the Lakeview Local School District property, the COE operations area or hiking trails on COE or State lands.
- Existing information and consultation with the State Historic Preservation Officer indicates that cultural resources surveys will be required prior to any surface disturbing activities.



be collected in approved containers and tested in laboratories using Ohio Environmental Protection Agency's test methods, including appropriate quality assurance/quality control, and parameters would have error not to exceed percentages defined by method and concentration. The tests will include, but not be limited to, testing for the presence of asbestos and polynuclear aromatic hydrocarbons (PAHs), filtered sample for water soluble metals (filtered), unfiltered sample (unfiltered), calcium (mg/L), magnesium (mg/L), potassium (mg/L), sodium (mg/L), sulfate (mg/L), and nitrate as total nitrate (mg/L). Test results will be filed with the BLM and Ohio Department of Natural Resources, Groundwater Protection Section, and the Township Zoning Department, if applicable.

Proposed well location and associated activities will not be approved if within one-half mile of an active wild eagle nest or an established bald eagle nesting territory.

Within potential habitat for listed, sensitive migratory birds (cavities, etc.), excavating for a well shall be avoided, if possible. If such areas must be removed, they cannot be cut down or removed the whole of April 15 through September 15. If potential roosting trees are present and the tree retention is unacceptable, some other surveys, or other surveys, should be conducted to determine if there are present. If the survey determines that habitat does not include the area, the identified trees may be cut down any time of year. If survey determines that the area is unacceptable for conducting completion of survey.

Disturbance to migratory birds shall be avoided if possible. Seasonal restrictions may be applied. This restriction will be made to determine the potential for the presence of the migratory birds or its habitat. If indicated, a survey would be required to determine that the migratory birds are not within the area. If it is determined that the migratory birds are present or potential habitat exists, further disturbance will not be permitted from April through the end of October. Further disturbance will also not be permitted if a site is identified as migratory winter habitat. A survey would be responsible for conducting completion of survey.

BLM will not allow any proposed well located adjacent to COE or ODFW developed recreational areas to exist which would interfere with the current developed recreational area (see 42 USC).

BLM will require special noise reduction measures for well drilling, completion and production operations proposed adjacent to noise sensitive areas including, but not limited to, residences or recreational enjoyment, the Historic Township Park, the Lakewood Local School District property, the COE operations area or hiking trails on COE or State lands.

Existing information and consultation with the State Historic Preservation Office indicates that cultural resources surveys will be required prior to any surface disturbing activities.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Albuquerque Field Office

PO Box 511

Albuquerque, New Mexico 87101

MDO-EA98-013

U.S. Department of the Interior  
Bureau of Land Management

Eastern States  
Milwaukee Field Office

October 1998

# Mosquito Creek Lake Proposed Planning Analysis/ Environmental Assessment

In cooperation and coordination with  
U.S. Army Corps of Engineers, Pittsburgh District,  
and Ohio Department of Natural Resources



U.S. Department of the Interior  
Bureau of Land Management

Report No. 98-013

Revised June 1998

October 1997

# Mosquito Creek Lake Proposed Planning Analysis/ Environmental Assessment

In cooperation and coordination with  
U.S. Army Corps of Engineers, Pittsburgh District,  
and Ohio Department of Natural Resources



# United States Department of the Interior



## BUREAU OF LAND MANAGEMENT

Milwaukee Field Office

PO Box 631

Milwaukee, Wisconsin 53201

In Reply Refer To:  
1610MCL (030)

September 28, 1998

Dear Reader:

I am pleased to present the Proposed Planning Analysis and Environmental Assessment (PA/EA) for oil and gas leasing at the U.S. Army Corps of Engineers' Mosquito Creek Lake project in Trumbull County, Ohio. The Proposed PA/EA serves as a companion document to the Draft PA/EA released in April 1998. Appropriate references to the Draft PA/EA are made throughout this document.

The Draft PA/EA detailed the potential impacts associated with the leasing and subsequent development of Federal oil and gas resources at Mosquito Creek Lake. The Draft PA/EA analyzed two alternatives: Alternative A, No Action/No Lease, and Alternative B, Lease with a "no surface occupancy" restriction. Based on public comments received during the 60-day review period, the Proposed PA/EA provides more detail regarding certain processes and includes several new pieces of information. This new information was considered and incorporated into the analysis process. The Proposed PA/EA also includes responses to public comments made during the comment period, including both written and oral statements.

Based on the findings of the Draft PA/EA and the supplemental information/analyses, the Bureau of Land Management (BLM) proposes to lease the Federal oil and gas resources located at Mosquito Creek Lake subject to the surface and subsurface use restrictions identified on pages 1-11 and 1-12 of the Draft PA/EA. Mitigation measures listed in Appendix A, herein, would apply to all approved drilling permits or Federal agreements.

The Proposed PA/EA has been prepared in accordance with the Federal Land Policy and Management Act 1976 and the National Environmental Policy Act of 1969. The Proposed PA/EA may be protested by any person who participated in the planning process and who has an interest which is or may be adversely affected by the approval of the plan. A protest may raise only those issues which were submitted for the record during the planning process (see 43 CFR 1610-5-2). Protests must be filed in writing with the Director of BLM at the following address:

Director, Bureau of Land Management  
Attn: Ms. Brenda Williams, Protests Coordinator  
WO-210/LS-1075  
Department of the Interior  
Washington, D.C. 20240



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Midwestern Field Office  
P.O. Box 501  
Minneapolis, Minnesota 55401



U.S. GPO: 1975-0-250-250  
5010-108-1

September 28, 1978

Dear Sir:

I am pleased to present the Proposed Planning Analysis and Environmental Assessment (PAAEA) for oil and gas leasing at the U.S. Army Corps of Engineers' Mowbray Creek Lake project in Ramsey County, Minnesota. The Proposed PAAEA serves as a companion document to the Draft PAAEA released in April 1978. Appendices referenced to the Draft PAAEA are made throughout this document.

The Draft PAAEA outlined the potential impacts associated with the leasing and subsequent development of Federal oil and gas resources at Mowbray Creek Lake. The Draft PAAEA analyzed two alternatives: Alternative A, No Action/No Lease, and Alternative B, Lease with a "no surface occupancy" restriction. Based on public comments received during the 60-day review period, the Proposed PAAEA provides more detail regarding certain processes and includes several new pieces of information. This new information was considered and incorporated into the analysis process. The Proposed PAAEA also includes responses to public comments made during the comment period, including both written and oral statements.

Based on the findings of the Draft PAAEA and the supplemental information analyzed, the Bureau of Land Management (BLM) proposes to lease the Federal oil and gas resources located at Mowbray Creek Lake subject to the surface and subsurface use restrictions identified on pages 1-11 and 1-12 of the Draft PAAEA. Management measures listed in Appendix A herein would apply to all approved drilling permits or Federal agreements.

The Proposed PAAEA has been prepared in accordance with the Federal Land Policy and Management Act (1976) and the National Environmental Policy Act of 1969. The Proposed PAAEA may be processed by any person who participated in the planning process and who has an interest which is or may be adversely affected by the approval of the plan. A person may file only those issues which were submitted for the record during the planning process (see 43 CFR 1610-2-2). Comments must be filed in writing with the Director of BLM at the following address:

Director, Bureau of Land Management  
Attn: Mr. Brenda Williams, Projects Coordinator  
WO-21042-1075  
Department of the Interior  
Washington, D.C. 20240



Overnight mail address for protests is:

Director, Bureau of Land Management  
Attn: Ms. Brenda Williams, Protests Coordinator (WO-210)  
1620 L Street, N.W., Rm. 1075  
Washington, D.C. 20036  
Phone: (202) 452-5110

To expedite consideration, in addition to the original sent by mail or overnight mail, a copy of the protest may be sent by:

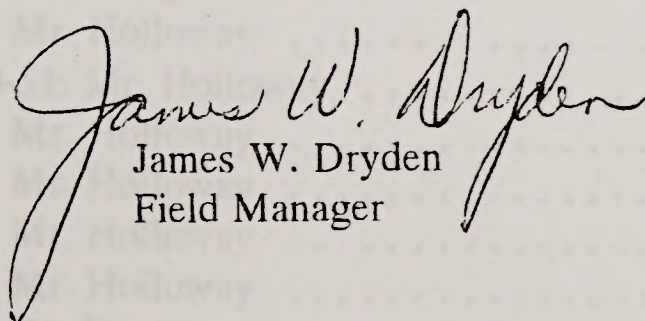
FAX to (202) 452-5112; or  
E-mail to [bhudgens@wo.blm.gov](mailto:bhudgens@wo.blm.gov)

**Protests filed late, or filed with the State Director or Field Manager, shall be rejected by BLM.** All protests must be written and must be postmarked on or before November 18, 1998, and shall contain the following information:

- The name, mailing address, telephone and interest of the person filing the protest.
- A statement of the issue or issues being protested.
- A statement of the part or parts of the document being protested.
- A copy of all documents addressing the issue or issues previously submitted during the planning process by the protesting party, or an indication of the date the issue or issues were discussed for the record.
- A concise statement explaining precisely why the BLM's decision is wrong.

Upon resolution of any protests, an Approved Planning Analysis and Decision Record (DR) will be issued. The Approved Planning Analysis/DR will be mailed to all individuals who are currently on the plan's mailing list and other interested parties as requested. Thank you for your continued interest in this project.

Sincerely,

  
James W. Dryden  
Field Manager



Overnight mail address for projects is:

Director, Bureau of Land Management  
Attn: Mr. Brenda Williams, Projects Coordinator (WO-210)  
1601 L Street, N.W., Rm. 1072  
Washington, D.C. 20036  
Phone: (202) 432-2110

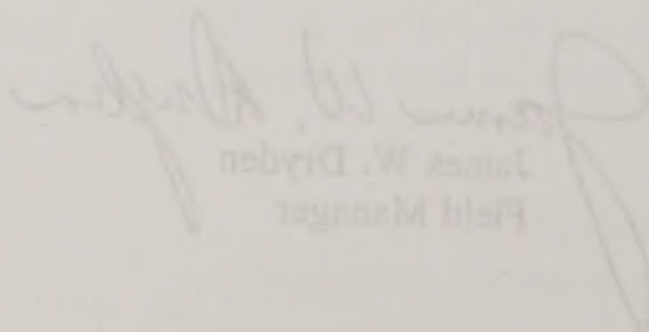
In separate correspondence, in addition to the original sent by mail or overnight mail, a copy of the project may be sent by:

FAX to (202) 432-2112 or  
E mail to [brendawilliams@blm.gov](mailto:brendawilliams@blm.gov)

Projects listed here, or filed with the State Director or Field Manager, shall be rejected by BLM. All projects must be written and must be postmarked on or before November 18, 1998, and shall contain the following information:

- The name, mailing address, telephone and fax of the person filing the project.
- A statement of the issue or issues being presented.
- A statement of the part or parts of the document being presented.
- A copy of all documents addressing the issue or issues previously submitted during the planning process by the presenting party, or an indication of the date the issue or issues were discussed for the record.
- A concise statement explaining precisely why the BLM's decision is wrong.
- Upon resolution of any project, an Approved Planning Analysis and Decision Record (APAR) will be issued. The Approved Planning Analysis (APAR) will be mailed to all individuals who are currently on the plan's mailing list and other interested parties as requested. Thank you for your continued interest in this project.

Sincerely,

  
James W. Dryden  
Field Manager



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#### THE PROPOSED PLAN

The BLM proposes to offer for lease the Federal oil and gas interests underlying the Mosquito Creek Lake project area subject to the surface and subsurface use restrictions identified on pages 1-11 and 1-12 of the Draft PAA. BLM will apply mitigation measures listed in Appendix A, page 35, pending the completion of approved attached drilling permits or in lieu of approval for Federal agreements. It is assumed that other surface and subsurface responsibilities will be conducted in accordance with their respective statutes unless otherwise noted in this document.







## INTRODUCTION

The Bureau of Land Management (BLM) proposes to lease federally owned oil and gas resources underlying the Mosquito Creek Lake project area in Trumbull County, Ohio. The project is managed by the U.S. Army Corps of Engineers (COE). The Draft Planning Analysis/Environmental Assessment (PA/EA) was released to the public on April 10, 1998 for a 60-day comment period and governor's consistency review. This Proposed PA/EA identifies the agency's proposed plan, provides supplemental information, and clarifies certain processes and concerns raised during the public comment period. It includes copies of the letters received during the comment period and BLM's responses to the substantive comments made in those letters. In addition, the Proposed PA/EA includes BLM's responses to comments made at two public meetings held in Trumbull County in May, 1998. BLM's contract with the court reporting service prevents us from publishing the transcripts verbatim. Copies of the transcripts can be found at the following libraries in Trumbull County: Viets Memorial Library, Cortland; Warren Public Library, Warren; and the Bristol Public Library, Bristolville, Ohio.

In order to minimize printing costs associated with this document, the Draft PA/EA was not reprinted in its entirety. This Proposed PA/EA serves as a companion document to the Mosquito Creek Lake Draft PA/EA. Reviewers should consult the Draft PA/EA for full explanation of the alternatives, affected environment, environmental impacts and other relevant material. References to page numbers or sections of the Draft PA/EA are clearly noted in this document.

This document also contains BLM's Finding of No Significant Impact (FONSI) developed in accordance with the National Environmental Policy Act of 1969 (NEPA) and Title 40 Code of Federal Regulations (CFR) 1500, et seq. (page 55). The COE Pittsburgh District has given preliminary indications that they are prepared to sign a FONSI for the Proposed PA/EA. Execution of the FONSI will, however, be deferred until after the 30-day protest period has expired and all protests to the proposed plan have been appropriately resolved.

## THE PROPOSED PLAN

The BLM proposes to offer for lease the Federal oil and gas resources underlying the Mosquito Creek Lake project area subject to the surface and subsurface use restrictions identified on pages 1-11 and 1-12 of the Draft PA/EA. BLM will apply mitigation measures listed in Appendix A, page 58, herein, as conditions of approval attached to drilling permits or as terms of approval for Federal agreements. It is assumed that other entities' administrative responsibilities will be conducted in accordance with their respective mandates unless otherwise noted in this document.



## INTRODUCTION

The Bureau of Land Management (BLM) proposes to lease Federally owned oil and gas resources underlying the Mesquite Creek Lake project area in Tumbull County, Ohio. The project is managed by the U.S. Army Corps of Engineers (COE). The Draft Planning and Environmental Assessment (PEA) was released to the public on April 10, 1988 for a 30-day comment period and Government's consistency review. The proposed PEA includes the agency's proposed plan, provides supplemental information, and clarifies certain passages and comments raised during the public comment period. It includes copies of the letters received during the comment period and BLM's responses to the substantive comments made in these letters. In addition, the proposed PEA includes BLM's responses to comments made at two public hearings held in Tumbull County in May, 1988. BLM's contract with the county regarding services provided as from publishing the proposed version. Copies of the transcript can be found at the following libraries in Tumbull County: Vinton Memorial Library, Cleveland; Western Public Library, Warren; and the Bristol Public Library, Bristol, Ohio.

In order to minimize printing costs associated with this document, the Draft PEA was not included in its entirety. The proposed PEA serves as a replacement document to the Mesquite Creek Lake Draft PEA. Reviewers should consult the Draft PEA for full explanation of the alternatives, selected environmental, economic, impacts and other relevant material. References to page numbers or sections of the Draft PEA are clearly noted in this document.

The document also contains BLM's Finding of No Significant Impact (FONSI) developed in accordance with the National Environmental Policy Act of 1969 (NEPA) and Title 40 Code of Federal Regulations (CFR) 1500 as well as page 22. The COE Planning Branch has given preliminary indications that they are prepared to sign a FONSI for the proposed PEA. Provisions of the FONSI will, however, be deferred until after the 30-day comment period has expired and all protests to the proposed plan have been appropriately resolved.

## THE PROPOSED PLAN

The BLM proposes to lease the Federal oil and gas resources underlying the Mesquite Creek Lake project area subject to the various and substantial use restrictions identified on pages 1-11 and 1-12 of the Draft PEA. BLM will apply mitigation measures listed in Appendix A, page 28, for the conditions of approval attached to drilling permits or as terms of approval for Federal agreements. It is assumed that other relevant administrative responsibilities will be conducted in accordance with their respective mandates unless otherwise noted in this document.



## SUPPLEMENTAL INFORMATION

New information received during the comment period has been reviewed, incorporated into the analysis of potential impacts, and is presented below.

### WATER RESOURCES

Updated information relating to water quality standards was provided by Mr. Thomas Holloway, Sanitary Engineer, Trumbull County (see Appendix B, page 71). Table 3-3 (revised) lists trace metals and volatile organic compounds (VOCs) with measured concentrations from samples taken at the Warren water plant intake, Ohio Environmental Protection Agency (OEPA) aquatic life standards (ALS), and the OEPA public water supply standards (PWSS). The most recent data are from 1995 (Peterson, et al., 1997). The existing level of manganese (90 µg/l) currently exceeds the OEPA PWSS (50 µg/l).

Table 3-3 (revised). Water Quality Observations and Standards for Certain Trace Metals and Volatile Organic Compounds

| PARAMETER                             | CONCENTRATION<br>(observed at Mosquito<br>Creek Lake) | OEPA - ALS     | OEPA-PWSS   |
|---------------------------------------|-------------------------------------------------------|----------------|-------------|
| <i>Trace Metals</i>                   |                                                       |                |             |
| Arsenic (As)                          | <3 µg/l*                                              | 190 µg/l       | 50 µg/l     |
| Barium (Ba)                           | 12 µg/l                                               | No standard    | 1000 µg/l   |
| Cadmium (Cd)                          | <0.5 µg/l*                                            | 1.4 µg/l       | 10 µg/l     |
| Chromium (Cr)                         | <5 µg/l*                                              | 3,433,000 µg/l | 50 µg/l     |
| Lead (Pb)                             | < 2 µg/l*                                             | 6.9 µg/l       | 50 µg/l     |
| Nickel (Ni)                           | <20 µg/l                                              | 4,600 µg/l     | 610 µg/l    |
| Manganese (Mn)                        | 90 µg/l                                               | No standard    | 50 µg/l     |
| <i>Volatile Organic<br/>Compounds</i> |                                                       |                |             |
| Benzene                               | <0.5 µg/l                                             | 710 µg/l       | 5 µg/l      |
| Xylene                                | No Data                                               | No standard    | No standard |
| Toluene                               | No Data                                               | 300,000 µg/l   | 10,000 µg/l |

\* Values represent concentrations below detectable levels.

Source: Ohio Administrative Statutes Rule 3745-1-07 (OEPA) and Peterson, et al. 1997.

The analyses in Sections 4.2.3 and 4.2.4 of the Draft PA/EA address the potential impacts against these standards, where applicable. The discussion concerning the



# SUPPLEMENTAL INFORMATION

New information received during the comment period has been reviewed, incorporated into the analysis of potential impacts, and is presented below.

## WATER RESOURCES

Updated information relating to water quality standards was provided by Mr. Thomas Holloway, Sanitary Engineer, Franklin County (see Appendix B, page 71, Table 3-3). (Review) has been made and volatile organic compounds (VOCs) will be measured. concentrations from samples taken at the Warren water plant intake, Ohio. Environmental Protection Agency (EPA) organic life standards (AL2), and the EPA public water supply standards (PWS2). The most recent data are from 1995 (Peterson et al. 1997). The current level of manganese (50 ug/l) currently exceeds the EPA PWS2 (20 ug/l).

Table 3-3 (continued): Water Quality Information and Standards for Certain Trace Metals and Volatile Organic Compounds

| PARAMETER      | CONCENTRATION (current or historical) (ug/l) | EPA - AL2    | EPA-PWS2    |
|----------------|----------------------------------------------|--------------|-------------|
| Trace Metals   |                                              |              |             |
| Antimony (As)  | < 0.05                                       | 100 ug/l     | 50 ug/l     |
| Barium (Ba)    | 12 ug/l                                      | No standard  | 1000 ug/l   |
| Cadmium (Cd)   | 0.05 ug/l                                    | 1.4 ug/l     | 10 ug/l     |
| Chromium (Cr)  | < 0.05                                       | 1,470 ug/l   | 50 ug/l     |
| Copper (Cu)    | < 2 ug/l                                     | 6.9 ug/l     | 50 ug/l     |
| Lead (Pb)      | 0.05 ug/l                                    | 4,000 ug/l   | 500 ug/l    |
| Manganese (Mn) | 50 ug/l                                      | No standard  | 50 ug/l     |
| Mercury (Hg)   | —                                            | —            | —           |
| Nickel (Ni)    | < 0.2 ug/l                                   | 70 ug/l      | 2 ug/l      |
| Selenium (Se)  | No Data                                      | No standard  | No standard |
| Toluene        | No Data                                      | 300,000 ug/l | 10,000 ug/l |

Values represent concentrations below detection limit. Source: Ohio Administrative Service Rule 3945-1-01 (EPA) and Peterson et al. 1997.

The analysis in Sections 4.2.3 and 4.2.4 of the Draft EA address the potential impacts against these standards, where applicable. The discussion concerning the



example of a catastrophic loss of a brine truck directly into Walnut Creek demonstrates that the quality of the surface water of Mosquito Creek Lake would not approach the upper limits of the PWSS or ALS standards. The Draft PA/EA concludes that with the application of proper mitigation measures, minimal sediments or other materials from drilling and producing wells would reach the surface waters and hence only negligible impacts to surface water quality would be anticipated. Therefore, no further analysis against these standards would be warranted. With respect to groundwater, the only anticipated impact would be a localized, short-term increase in turbidity to water wells during the drilling phase (Section 4.2.4, page 4-38 of the Draft PA/EA). No PWSS standard for turbidity exists and if turbidity were to occur, standard public water supply treatment/filtration would mitigate the problem. As for private water wells, they would incur the short-term impact of an increase in turbidity.

#### **U.S. GEOLOGICAL SURVEY REPORTS:**

##### **GROUND-WATER RESOURCES IN THE VICINITY OF CORTLAND, 1997**

##### **WATER QUALITY IN THE VICINITY OF MOSQUITO CREEK LAKE, 1998**

Two studies have been completed recently by the U. S. Geological Survey (USGS) which characterize water resources in the vicinity of Mosquito Creek Lake. The initial study involved an investigation of the groundwater resources that supply potable water to the city of Cortland (USGS, 1997). This study described the hydrogeologic framework and defined the area contributing recharge to the Cussewago sandstone which is the primary aquifer in the region and the sole source of drinking water supplied to the city of Cortland. The Cussewago is overlain by the Bedford shale which confines the aquifer and separates it from the Berea sandstone in the majority of the study area. The Berea is a secondary source of groundwater in the Mosquito Creek Lake area, and the Berea and Cussewago are probably in hydraulic connection where the Bedford shale has been eroded.

The Cussewago is recharged in part by water from Mosquito Creek Lake that eventually reaches the aquifer through recharge from glaciofluvial sediments underlying the lake bottom. Both the Berea and the Bedford shale are missing underneath the lake. Other sources of recharge are by infiltration from precipitation where the Cussewago appears at the earth's surface west of the lake in Mecca Township, and by connectivity with the Berea where the Bedford shale is absent (USGS, 1997). Recharge rates were not determined by the USGS but aquifer recharge appears to be sufficient to replenish the Cussewago as water is withdrawn at the present rate by Cortland's public supply wells. Travel time from the recharge area beneath the lake to Cortland's wells is estimated to range from 60 to 110 years.

A second USGS study provided a baseline of water quality information and "fingerprinted" the chemical nature of oil, gas and brine from the Berea, Cussewago and Clinton sandstones in the surface and groundwater sources in the Mosquito Creek







Lake area (USGS, 1998). The lake provides the only source of drinking water for residents of the city of Warren and surrounding communities. Oil was first produced commercially in 1860 from the Mecca oil pool in the shallow Berea "grit"<sup>1</sup>, less than 100 feet below the earth's surface. Fresh water underlies the Mecca oil in the Berea, but the Berea is not an abundant water source and fewer private water wells are drilled into it than into the Cussewago sandstone aquifer. One result of the field work conducted during this study was a determination that Mecca oil is found in both the Berea and Cussewago sandstones. The Berea does not exist beneath Mosquito Creek Lake, and therefore, it was also documented that Mecca oil was never produced in the area now occupied by the lake. Since the late 1970s, the major zones of hydrocarbon production have been the deeper Clinton sandstones at more than 4,000 feet.

Surface and groundwater samples were collected in the Mosquito Creek Lake area to characterize current water quality in relation to the presence of oil, natural gas, and brine. The description of water quality allowed for distinction to be made between hydrocarbons formed in place and hydrocarbons that may have migrated between the Berea, Cussewago, and Clinton formations. Brine samples were taken only from the Clinton sandstones because brine is not associated with the shallow Berea and Cussewago hydrocarbons (USGS, 1998).

Methane gas accumulations occur naturally along with fresh water in both the Berea and Cussewago aquifers. The gas is of biogenic origin, i.e. produced by the action of microorganisms (USGS, 1998). Methane concentrations were considered hazardous in some water samples from wells drilled into the Cussewago. The chemical composition of Mecca oil is characteristic of shallow oil deposits which have been extensively altered by biodegradation. Oil was not detected in water and sediments sampled from Mosquito Creek Lake.

Oil, gas, and brine associated with the Clinton sandstones have not undergone extensive biodegradation because they occur at depths where the presence of microorganisms is limited (USGS, 1998). Thus, they are chemically distinguishable from the hydrocarbons that exist in the shallow Berea and Cussewago sandstones. Clinton oil and gas were not detected in surface or groundwater samples during this study. A mixing diagram constructed for the water samples collected showed no demonstrable mixing of these water resources with brine from the Clinton sandstone. Although most water samples plotted in the zone of local fresh water, other surface and groundwater samples indicated presence of saline water. The USGS suggested that the sources of salinity may have been road salt solution or septic effluent (USGS, 1998). Septic effluent was observed near some sampling sites in the field.

The 1998 USGS study satisfied the need for baseline water quality data for the

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<sup>1</sup>An antiquated term which includes the Berea, Bedford, and Cussewago.



Lake area (USGS, 1998). The lake provides the only source of drinking water for residents of the City of Warren and surrounding communities. Oil was first produced commercially in 1860 from the Mecca oil pool in the shallow Berne "grit", but was 100 feet below the surface. Fresh water underlies the Mecca oil in the Berne. The Berne is not an abundant water source and fewer private water wells are drilled into it than into the Casswaga sandstone aquifer. One result of the field work conducted during this study was a determination that Mecca oil is found in both the Berne and Casswaga sandstones. The Berne does not exist beneath Rhinoceros Creek Lake, and therefore, it was also determined that Mecca oil was never produced in the area now occupied by the lake. Since the late 1970s, the major zones of hydrocarbon production have been the deeper Clinton sandstones at more than 4,000 feet.

Surface and groundwater samples were collected in the Mesopore Creek Lake area to characterize current water quality in relation to the presence of oil, natural gas, and brine. The description of water quality allowed for distinction to be made between hydrocarbons found in place and hydrocarbons that may have migrated between the Berne, Casswaga, and Clinton formations. Brine samples were taken only from the Clinton sandstones because brine is not associated with the shallow Berne and Casswaga hydrocarbons (USGS, 1998).

Methane gas accumulations occur naturally along with fresh water in both the Berne and Casswaga sandstones. The gas is of biogenic origin, i.e., produced by the action of microorganisms (USGS, 1998). Methane concentrations were considered parameters in water samples from wells drilled into the Casswaga. The chemical composition of brine oil is characteristic of shallow oil deposits which have been extensively altered by biodegradation. Oil was not detected in water and sediments sampled from Mesopore Creek Lake.

Oil, gas, and brine associated with the Clinton sandstones have not undergone extensive biodegradation because they occur in depths where the presence of microorganisms is limited (USGS, 1998). Thus, they are chemically distinguishable from the hydrocarbons that exist in the shallow Berne and Casswaga sandstones. Clinton oil and gas were not detected in surface or groundwater samples during this study. A mixing diagram constructed for the water samples collected showed no discernible mixing of these water resources with brine from the Clinton sandstone. Although more water samples placed in the zone of local fresh water, other surface and groundwater samples indicated presence of saline water. The USGS suggested that the source of salinity may have been salt solution or saline effluent (USGS, 1998). Saline effluent was observed near some sampling sites in the field.

The 1998 USGS study reaffirmed the need for baseline water quality data for the

An updated text which includes the Berne, Bedford, and Casswaga



Mosquito Creek Lake area. Many impacts to water resources, including those that may result from oil and gas drilling and production activities, can now be more readily assessed. One result of the study is that no evidence was provided that there has been a "measurable release of oil, gas or brine from the deeper Clinton sandstones to the shallow aquifers, Mosquito Creek Lake, or the lake's tributaries" from current oil and gas activities in the area (USGS, 1998). Migration of Clinton hydrocarbons and brine from existing oil and gas wells has not occurred. Given that the Clinton reservoirs are under pressured, it was calculated that oil and brine from Clinton wells could not reach the Berea and Cussewago aquifers. However, gas could rise within the wellbores far enough to mix with fresh water in the shallow aquifer system provided that the well casings had been improperly installed.

Both of the USGS studies document the lack of hydrocarbon contaminants in the lake, but notable levels of methane gas were recorded in drinking water from Cortland's wells. Methane gas occurs naturally in the Cussewago sandstone. The most significant finding from these studies appears to be that water resources in the Mosquito Creek Lake area are most vulnerable to surface spills and contaminants from reserve pit leachate associated with oil and gas activities rather than to mixing of hydrocarbons and brine among the shallow aquifers, Clinton sandstones, and the lake. A discussion of potential impacts to water resources from oil and gas operations can be found in Section 4.2.4, pages 4-33 and 4-34 of the Draft PA/EA.

The lake and surface waters could be impacted directly by oil or brine spills or by overflow from drilling pits. The potential for groundwater contamination exists if contaminants enter the aquifer system by infiltration from the surface or if drilling fluids are leached from reserve pits. An increase in groundwater salinity is the primary concern associated with leaking drilling pits. The confined status of the Cussewago sandstone, however, "helps protect the water in [this] aquifer from contamination" (USGS, 1997).

Protection of the water resources in the Mosquito Creek Lake area is discussed in the Draft PA/EA, Section 4.1, pages 4-2 and 4-3. Constraints have been identified which will function to maintain existing surface and groundwater quality (pages 4-9 and 4-10 of the Draft PA/EA). Contamination from oil and gas wellbores is not considered a major problem (USGS, 1998). Proper installation and cementing of casing during drilling operations will isolate the shallow aquifers and prevent the mixing of deeper reservoir gas with fresh water (Section 2.6, page 2-7 of the Draft PA/EA).

The 1998 USGS study identified two areas where the aquifers are particularly susceptible to contamination from oil and gas drilling and production activities. The first is at the confluence of Walnut Run and Mosquito Creek Lake where soil and sediments that overlie the Berea and Cussewago sandstones are thin and in some places the sandstones are exposed at the surface. Also, west of the lake near the boundary of Bazetta and Mecca Townships, the Cussewago is near the surface. At



Montezuma Creek Lake area. Many impacts to water resources, including those that may result from oil and gas drilling and production activities, can now be more readily assessed. One result of the study is that no evidence was provided that there has been a "significant release of oil, gas or brine from the Montezuma Creek aquifer to the surface aquifer, Montezuma Creek Lake, or the lake's tributaries" from casing oil and gas activities in the area (USGS, 1998). Migration of Chinese hydrocarbons and brine from casing oil and gas wells has not occurred. Given that the Chinese reservoir was under pressured, it was concluded that oil and brine from Chinese wells would not reach the Berce and Crowsfoot aquifers. However, gas could rise within the wellbore far enough to mix with fresh water in the shallow aquifer system provided that the well casing had been properly installed.

Both of the USGS studies document the lack of hydrocarbon contaminants in the lake. The results of the study of the Berce and Crowsfoot aquifers were consistent with the USGS's study. Hydrocarbon gas occurs naturally in the Crowsfoot sandstone. The most significant finding from these studies appears to be that water resources in the Montezuma Creek Lake area are more vulnerable to surface spills and contaminants from reservoir oil leakage associated with oil and gas activities rather than to mixing of hydrocarbons and brine among the shallow aquifer, Chinese sandstone, and the lake. A discussion of potential impacts to water resources from oil and gas operations can be found in Section 4.3.4, pages 4-33 and 4-34 of the Draft PAEA.

The lake and surface waters could be impacted directly by oil or brine spills or by overflows from drilling pits. The potential for groundwater contamination exists if contaminants enter the aquifer system by infiltration from the surface or if drilling fluids are leaked from casing leaks. An increase in groundwater salinity is the primary concern associated with testing drilling pits. The confined status of the Crowsfoot sandstone, however, helps prevent the water in [this] aquifer from contamination (USGS, 1997).

Protection of the water resources in the Montezuma Creek Lake area is discussed in the Draft PAEA, Section 4.1, pages 4-1 and 4-3. Contaminants have been identified which will function to maintain existing surface and groundwater quality (pages 4-9 and 4-10 of the Draft PAEA). Contamination from oil and gas wellbores is not considered a major problem (USGS, 1998). Proper installation and cementing of casing during drilling operations will reduce the shallow aquifer and prevent the mixing of deeper reservoir gas with fresh water (Section 2.3, pages 2-7 of the Draft PAEA).

The 1998 USGS study identified two areas where the aquifers are particularly susceptible to contamination from oil and gas drilling and production activities. The first is at the confluence of Walnut Run and Montezuma Creek Lake where oil and sediments that overlie the Berce and Crowsfoot sandstones are thin and in some places the sandstones are exposed at the surface. Also, west of the lake near the boundary of Berce and Mecca Townships, the Crowsfoot is near the surface. At



these locations, the aquifers are most susceptible to contamination from surface spills. The need for specific mitigation measures to protect these areas from impacts associated with oil and gas development would be determined on a case-by-case basis as proposed well sites are evaluated.

### BIOLOGICAL RESOURCES, SPECIAL STATUS SPECIES

The Ohio Department of Natural Resources (ODNR), Division of Natural Areas and Preserves identified several State listed species/concentrations of breeding animals to be added to Table 3-4 of the Draft PA/EA (see Appendix B, page 80). A revised table is presented below:

**Table 3-4 (revised). Special Status Species Which May Be Present Within or Near the Mosquito Creek Lake Project Area**

| COMMON NAME ( <i>Scientific name</i> )                      | STATUS   | PRESENCE (Source) |
|-------------------------------------------------------------|----------|-------------------|
| Indiana bat ( <i>Myotis sodalis</i> )                       | F-E; S-E | Possible (1)      |
| River Otter ( <i>Lutra canadensis</i> )                     | S-E      | Verified (2)      |
| Bald eagle ( <i>Haliaeetus leucocephalus</i> )              | F-T; S-E | Verified (1,2,3)  |
| Osprey ( <i>Pandion haliaetus</i> )                         | S-E      | Verified (2)      |
| Northern harrier ( <i>Circus cyaneus</i> )                  | S-E      | Verified (2,3)    |
| Great blue heron colony ( <i>Ardea herodias</i> )           | bac      | Verified (3)      |
| King rail ( <i>Rallus elegans</i> )                         | S-E      | Possible (2)      |
| Virginia rail ( <i>Rallus limicola</i> )                    | spt      | Verified (3)      |
| Cliff Swallow ( <i>Hirundo pyrrhonota</i> )                 | bac      | Verified (3)      |
| Eastern massasauga ( <i>Sistrurus catenatus catenatus</i> ) | fsc; S-E | Verified (1,2,3)  |
| Eastern sand darter ( <i>Etheostoma pellucidum</i> )        | fsc      | Possible (1)      |
| Clubshell mussel ( <i>Pleurobema clava</i> )                | F-E; S-E | Possible (1)      |
| False hop sedge ( <i>Carex lupuliformis</i> )               | S-T      | Possible (3)      |
| Hobblebush ( <i>Viburnum alnifolium</i> )                   | sc       | Possible (3)      |
| Gray birch ( <i>Betula populifolia</i> )                    | sc       | Verified (3)      |
| Oak-maple swamp                                             | snf      | Possible (3)      |

F: Federal species listed by the U.S. Fish and Wildlife Service (USFWS) under Endangered Species Act (ESA)  
 E/T Endangered/Threatened species  
 fsc Species identified as a Federal species of concern

S: State species listed by the ODNR  
 E/T Endangered/Threatened species  
 spt species could become State listed  
 sc State species of concern  
 snf significant natural feature  
 bac breeding animal concentration

Presence Definitions: Possible - Suitable habitat is present, but the species has not been documented within the Mosquito Creek Lake planning area, Verified - Species has been verified within the Mosquito Creek Lake Wildlife Area.

Sources: (1) USFWS, (2) ODNR, Mosquito Creek wildlife area records, (3) ODNR, Division of Natural Areas and Preserves, Natural Heritage Program



These factors, the species and their susceptibility to parasitization from surface spillover. The need for specific mitigation measures to protect these areas from impacts associated with oil and gas development would be determined on a case-by-case basis as proposed well sites are evaluated.

## Final Review, Recommendation & Special Status Species

The Ohio Department of Natural Resources (ODNR), Division of Natural Areas and Preserves (DNAP) reviewed State listed species/nominations of breeding animals to be added to Table 3-4 of the Draft PAEA (see Appendix B, page 80). A revised table is presented below:

Table 3-4 (revised): Special Status Species Which May Be Present Within or Near the Mississippi Creek Lake Project Area

| THREAT LEVEL   | STATUS     | THREAT LEVEL   |
|----------------|------------|----------------|
| Extremely High | 1.0-2.5    | Extremely High |
| High           | 2.6-5.0    | High           |
| Medium         | 5.1-7.5    | Medium         |
| Low            | 7.6-10.0   | Low            |
| Very Low       | 10.1-12.5  | Very Low       |
| Extremely Low  | 12.6-15.0  | Extremely Low  |
| Not Listed     | 15.1-17.5  | Not Listed     |
| Not Listed     | 17.6-20.0  | Not Listed     |
| Not Listed     | 20.1-22.5  | Not Listed     |
| Not Listed     | 22.6-25.0  | Not Listed     |
| Not Listed     | 25.1-27.5  | Not Listed     |
| Not Listed     | 27.6-30.0  | Not Listed     |
| Not Listed     | 30.1-32.5  | Not Listed     |
| Not Listed     | 32.6-35.0  | Not Listed     |
| Not Listed     | 35.1-37.5  | Not Listed     |
| Not Listed     | 37.6-40.0  | Not Listed     |
| Not Listed     | 40.1-42.5  | Not Listed     |
| Not Listed     | 42.6-45.0  | Not Listed     |
| Not Listed     | 45.1-47.5  | Not Listed     |
| Not Listed     | 47.6-50.0  | Not Listed     |
| Not Listed     | 50.1-52.5  | Not Listed     |
| Not Listed     | 52.6-55.0  | Not Listed     |
| Not Listed     | 55.1-57.5  | Not Listed     |
| Not Listed     | 57.6-60.0  | Not Listed     |
| Not Listed     | 60.1-62.5  | Not Listed     |
| Not Listed     | 62.6-65.0  | Not Listed     |
| Not Listed     | 65.1-67.5  | Not Listed     |
| Not Listed     | 67.6-70.0  | Not Listed     |
| Not Listed     | 70.1-72.5  | Not Listed     |
| Not Listed     | 72.6-75.0  | Not Listed     |
| Not Listed     | 75.1-77.5  | Not Listed     |
| Not Listed     | 77.6-80.0  | Not Listed     |
| Not Listed     | 80.1-82.5  | Not Listed     |
| Not Listed     | 82.6-85.0  | Not Listed     |
| Not Listed     | 85.1-87.5  | Not Listed     |
| Not Listed     | 87.6-90.0  | Not Listed     |
| Not Listed     | 90.1-92.5  | Not Listed     |
| Not Listed     | 92.6-95.0  | Not Listed     |
| Not Listed     | 95.1-97.5  | Not Listed     |
| Not Listed     | 97.6-100.0 | Not Listed     |

1. Species listed as "Extremely High" are those species that are known to be present in the project area and are considered to be at high risk of extinction. 2. Species listed as "High" are those species that are known to be present in the project area and are considered to be at moderate risk of extinction. 3. Species listed as "Medium" are those species that are known to be present in the project area and are considered to be at low risk of extinction. 4. Species listed as "Low" are those species that are known to be present in the project area and are considered to be at very low risk of extinction. 5. Species listed as "Very Low" are those species that are known to be present in the project area and are considered to be at extremely low risk of extinction. 6. Species listed as "Extremely Low" are those species that are known to be present in the project area and are considered to be at negligible risk of extinction. 7. Species listed as "Not Listed" are those species that are not known to be present in the project area and are therefore not considered for listing. 8. Species listed as "Not Listed" are those species that are not known to be present in the project area and are therefore not considered for listing. 9. Species listed as "Not Listed" are those species that are not known to be present in the project area and are therefore not considered for listing. 10. Species listed as "Not Listed" are those species that are not known to be present in the project area and are therefore not considered for listing.



Based on this new information, the following two mitigation measures have been identified and have been incorporated into Appendix A, pages 62-63 as special mitigation measures:

- Removal of hobblebush will be avoided.
- Disturbances in massasauga habitat will be avoided or seasonal restrictions will be applied. Site inspections will be made to determine the potential for the presence of the massasauga or its habitat. If indicated, a survey would be required to document that the massasauga does not inhabit the area. If it is determined that the massasauga is present or potential habitat exists, surface disturbance will not be permitted from mid April through the end of October. Surface disturbance would also not be permitted if a site is identified as massasauga winter habitat.

## NOISE

COE comment #4 (see Appendix B, page 84) to the Draft PA/EA requested that information regarding existing noise levels in the Mosquito Creek Lake project area be provided. The following table provides this information.

Noise Levels Measured at Various Sites Around the Mosquito Creek Lake project area

| SITE NAME                            | MEASUREMENT* (dBA)   | SITE NAME                         | MEASUREMENT* (dBA)     |
|--------------------------------------|----------------------|-----------------------------------|------------------------|
| Dam Site Picnic Area                 | 49 to 56.2 (traffic) | Main Street Boat Launch           | 44.6                   |
| Mosquito Creek State Park Entrance   | 40.6                 | Bazetta Township Park             | 43.5                   |
| Mosquito Creek State Park Campground | 37.4                 | Lakeview Picnic Area              | 47.8 to 64.2 (traffic) |
| Housel-Craft Road Boat Access        | 38.4                 | Corps Office and Visitor's Center | 48.2 to 56.6 (traffic) |
| Route 88 Causeway - West Side        | 37.4                 | Route 305 Boat Launch             | 43                     |
| Mahan-Denman Road Boat Access        | 36.2                 | Tailwater Picnic Area             | 58.5                   |
| Causeway Sport Shop/Boat Launch      | 49.5                 | Mosquito Creek Picnic Area        | 49                     |
| Middle of Route 88 Causeway          | 49.2                 | Lakeview School District Property | 53                     |

\*Sound levels were measured in A-weighted decibels (dBA) with a hand-held CEL 231 Digital Sound Survey Meter by BLM staff in 1996.

## LOCATION OF DELPHI-PACKARD PLANT

During the public comment period, it was noted that the location of the Delphi-



Based on this new information, the following two mitigation measures have been identified and have been incorporated into Appendix A, pages 62-63 as special mitigation measures:

- Removal of hydrocarbon will be avoided.
- Disturbance in wetlands will be avoided or seasonal restrictions will be applied. Site inspection will be made to determine the potential for the presence of the mussel. If indicated, a survey would be required to document that the mussel does not inhabit the area. If it is determined that the mussel is present or potential habitat exists, surface disturbance will not be permitted from mid April through the end of October. Surface disturbance would also not be permitted if a site is identified as mussel habitat.

## NOISE

COE comment 4 (see Appendix B, page 64) to the Draft EIR/A requested that information regarding existing noise levels in the Mounain Creek Lake project area be provided. The following table provides this information.

Table 1: Noise Levels at Various Sites Around the Mounain Creek Lake Project Area

| MEASUREMENT<br>DATE | SITE<br>NAME       | MEASUREMENT<br>DATE | SITE<br>NAME       |
|---------------------|--------------------|---------------------|--------------------|
| 4/1/00              | Site 1: Near Lake  | 4/1/00              | Site 2: Near Lake  |
| 4/1/00              | Site 3: Near Lake  | 4/1/00              | Site 4: Near Lake  |
| 4/1/00 (4/1/00)     | Site 5: Near Lake  | 4/1/00              | Site 6: Near Lake  |
| 4/1/00 (4/1/00)     | Site 7: Near Lake  | 4/1/00              | Site 8: Near Lake  |
| 4/1/00              | Site 9: Near Lake  | 4/1/00              | Site 10: Near Lake |
| 4/1/00              | Site 11: Near Lake | 4/1/00              | Site 12: Near Lake |
| 4/1/00              | Site 13: Near Lake | 4/1/00              | Site 14: Near Lake |
| 4/1/00              | Site 15: Near Lake | 4/1/00              | Site 16: Near Lake |

Noise levels were measured in A-weighted decibels (dBA) with a Class 1, Type 1 sound level meter by BLM staff in 1999.

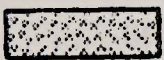
## LOCATION OF DELTA-PHASE PLANT

During the public comment period, it was noted that the location of the Delta-



# Delphi-Packard Plant Cortland Ohio

**Delphi-Packard  
Plant**



**Army Corps of Eng.  
Project Boundary**



**State Park**



**Streets**



270 0 270 540 Feet



Lake

Mosquito

McCleary Jacoby Rd.

West Main St.

Front St.

Mecca Ave.

**Delphi-Packard  
Plant**



# Delphi-Packard Plant Cortland Ohio





Packard industrial site was omitted from Map 5 of the Draft PA/EA. The location of this site is provided on the map entitled Delphi-Packard Plant found on the previous page.

## POINTS OF CLARIFICATION

Several comments requested clarification or additional detail about certain processes or plans referenced in the Draft PA/EA. In addition, one comment resulted in a change to how the groundwater investigation process would be implemented. These concerns are addressed below.

## APPROVAL OF FEDERAL AGREEMENTS/DRILLING PERMITS

COE comment #1 (see Appendix B, page 84) requested that the processes for approving Federal agreements and Federal drilling permits be outlined. The general steps for processing both Federal agreements (which may include either private or Federal wells) and Federal drilling permits (which apply specifically to Federal wells) can be found in the table below. Section 2.4 of the Draft PA/EA addresses compliance with the National Environmental Policy Act (NEPA) and outlines the environmental analysis process for approval of Federal agreements involving private oil and gas wells. Private wells drilled under an approved Federal agreement would be permitted through the ODNR Division of Oil and Gas.

### General Steps in Processing Federal Agreements and Drilling Permits

| Authorizing Document →<br>BLM Process                                                                   | Federal Agreement                                                                                                                      | Federal Drilling Permit                                                                                                  |
|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Identify Proposed Well Location                                                                         | Operator would be required to provide proposed well location to BLM for analysis.                                                      | Operator would provide proposed well location in Federal Application for Permit to Drill (APD).                          |
| On-site Inspection with operator, surface owner, adjacent surface mgmt. entities, others as appropriate | BLM would schedule inspection of proposed well site and utilize information provided in State permit application, if available.        | Inspection required under Federal regulations - operator's surface use plan as outlined in APD would be analyzed.        |
| Environmental Analysis                                                                                  | See Section 2.4 of Draft PA/EA - if exception criteria are met, environmental assessment would be prepared.                            | Site specific environmental assessment would be prepared to identify issues and develop appropriate mitigation measures. |
| Mitigation Measures                                                                                     | If applicable, mitigation measures would be identified during on-site inspection and through environmental assessment, if appropriate. | Mitigation measures would be identified through on-site inspection and through environmental assessment.                 |







| Authorizing Document→<br>BLM Process      | Federal Agreement                                                                                                                                                                               | Federal Drilling Permit                                                                                                                   |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Decisions/appropriate conditions or terms | BLM would decide on whether to approve Federal agreement - if approved, mitigation measures would be attached as terms of agreement - ODNR Division of Oil and Gas would issue drilling permit. | BLM would decide on whether or not to approve APD - if approved, mitigation measures would be attached as conditions to the approved APD. |

For Federal wells (wells where the bottomhole location is in federally owned minerals) operators are required to comply with Federal regulations and Orders relating to the permitting and operation of Federal wells. These regulations and Orders are outlined in Appendix A, Table A-1 under "Federal Controls, BLM Oil and Gas Operating Requirements for Federal Wells" of the Draft PA/EA. Operators of Federal wells must obtain both State and Federal drilling permits. To obtain a Federal permit, a lessee or operator would submit an Application for Permit to Drill (APD) to the BLM Milwaukee Field Office. The APD consists of a proposed drilling program and plans for surface use and reclamation, all of which must be approved before operations can begin. The APD may also contain plans for proposed production facilities should the well prove to be capable of production.

Upon receipt of the APD, BLM staff will arrange an on-site meeting with the operator, landowner, adjacent surface management entities, and other appropriate Federal, State and local agencies. All environmental and technical concerns, including potential conflicts with the surface uses or facilities, are resolved to the greatest extent possible during the on-site meeting. Mitigation measures found in Appendix A of this document would be attached as conditions of approval to an APD. In addition, a site specific environmental document, in compliance with NEPA, would be prepared at the time a well site is proposed. Mitigation measures developed through this site specific environmental analysis would also be attached as conditions of approval to an approved APD.

#### GROUNDWATER INVESTIGATIONS

Comments submitted by the ODNR (see Appendix B, page 81-82) detailed the uncertainty of the Division of Oil and Gas' budget for future years. Given budgetary constraints, it is not certain as to whether the Division will have hydrogeologists available to conduct groundwater investigations in relation to proposed leasing at Mosquito Creek Lake. It was necessary therefore to develop an alternative means of implementing the investigation process for resolution of public complaints. Under this alternative, an assumption is made that not all staff capability within the Division of Oil and Gas would be lost as a result of budgetary constraints. It is assumed that Division of Oil and Gas field inspectors/investigators would be available to make initial field contact with the complainant and collect preliminary site data. Following



| Authorizing Document -<br>BLM Permit     | Federal Agreement                                                                                                                                                                                            | Federal Drilling Permit                                                                                                                       |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Proclamation/Executive Order or<br>other | BLM would decide on whether to<br>approve Federal Agreement - if<br>approved, all other measures<br>would be attached as part of<br>agreement - (GOM) Division of Oil<br>and Gas would issue drilling permit | BLM would decide on whether to<br>approve APD - if approved,<br>mitigation measures would be<br>attached as conditions to the<br>approved APD |

for Federal wells (wells where the permit location is in federally owned interests) operations are required in compliance with Federal regulations and Orders relating to the permitting and operation of Federal wells. These regulations and Orders are outlined in Appendix A, Table A-1 under Federal Controls, BLM Oil and Gas Operating Requirements for Federal Wells, of the Draft FATEA. Operations of Federal wells must obtain both State and Federal drilling permits. To obtain a Federal permit, a lease or operation would submit an Application for Permit to Drill (APD) to the BLM Milwaukee Field Office. The APD consists of a proposed drilling program and plans for surface use and reclamation. All of which must be approved before operations can begin. The APD may also contain plans for proposed production facilities should the well prove to be capable of production.

Upon receipt of the APD, BLM staff will arrange an on-site meeting with the operator, landowner, adjacent surface management entities, and other appropriate Federal, State and local agencies. All environmental and technical concerns, including potential conflicts with the surface use or facilities, are resolved to the greatest extent possible during the on-site meeting. Mitigation measures found in Appendix A of the draft FATEA would be attached as conditions of approval to an APD. In addition, a site specific environmental document in compliance with NEPA would be prepared at the time a well site is proposed. Mitigation measures developed through this site specific environmental analysis would also be attached as conditions of approval to an approved APD.

### GROUNDWATER INVESTIGATIONS

Comments submitted by the GOM (see Appendix B, page 81-82) detailed the uncertainty of the Division of Oil and Gas budget for future years. Given budgetary constraints, it is not certain as to whether the Division will have hydrologists available to conduct groundwater investigations in relation to proposed leasing in the Spring Creek Lake. It was necessary therefore to develop an alternative means of implementing the investigation process for resolution of public complaints. Under this alternative, an assumption is made that not all staff capability within the Division of Oil and Gas would be lost as a result of budgetary constraints. It is assumed that Division of Oil and Gas field inspection investigation would be available to make initial field contact with the complainant and collect preliminary site data. Following



the initial field contact and collection of site data, BLM would be responsible for coordination of the hydrogeologic/hydrochemical investigation. It should be noted that information provided by the two recent U.S. Geological Survey reports, including data on the hydrogeologic framework of the bedrock aquifers and baseline information relating to potential oil and gas contaminants, will prove valuable in resolving potential complaints (see page 3 for a summary of the reports). Groundwater investigations would follow procedures developed by the ODNR Division of Oil and Gas. These procedures have been documented in a Division manual providing guidance on conducting investigations for violations of Section 1509.22 of the Ohio Revised Code involving contamination of soil, surface water or groundwater, and diminished water supply as a result of oil-field operations. BLM would utilize hydrogeologic expertise from the U.S. Geological Survey, Columbus, Ohio; BLM National Applied Resource Sciences Center, Denver, Colorado; or others, as necessary. If, in the unlikely event, Division of Oil and Gas field inspectors/investigators are not available, BLM would perform initial field contacts and collection of initial site information and sampling data. It is assumed that the authority for issuance of water replacement orders would remain with the Division of Oil and Gas, or, in the unlikely event the Division no longer exists, this authority would be transferred to another division within the State government.

## MONITORING

Section 4.5 of the Draft PA/EA outlined the purpose of a monitoring program. Public comments received during the 60-day review period reflected a need for more detail in regard to who will conduct inspections, when they would be done, and how often. Table D-3, "Inspections", in Appendix D of the Draft PA/EA outlined what inspections would be done during each phase of oil and gas operations. Some of the information presented in this table has been modified as a result of public comments and additional information received during public review of the Draft PA/EA.

Due to budgetary constraints, the ODNR has requested that all references to the Division of Oil and Gas' inspection or monitoring capability be deleted from the Draft PA/EA (see Appendix B, page 82). This is reflected in the table on the following page. In addition, the Trumbull County Soil and Water Conservation District Commissioner indicated in July, 1998 that his agency would conduct well site inspections under existing agreements with the Ohio Environmental Protection Agency and the ODNR Division of Oil and Gas (Brown, 1998). Well sites would be inspected during construction and drilling activities once per week to ensure proper sediment control.



the initial field contact and collection of site data. BLM would be responsible for coordination of the hydrogeologic/hydrochemical investigation. It should be noted that information provided by the two recent U.S. Geological Survey reports, including data on the hydrogeologic framework of the bedrock aquifers and fracture information relating to potential oil and gas contamination, will provide valuable information in planning the investigation (see page 2 for a summary of the report). Groundwater investigations would follow procedures developed by the ODNR Division of Oil and Gas. These procedures have been documented in a Division manual providing guidance on conducting investigations for violations of Section 1501.22 of the Ohio Revised Code involving removal of oil, surface water or groundwater, and threatened water supply as a result of oil-field operations. BLM would utilize hydrogeologic expertise from the U.S. Geological Survey, Columbus, Ohio; BLM National Applied Research Center, Denver, Colorado; or other, as necessary. If in the unlikely event Division of Oil and Gas field investigations are not available, BLM would perform initial field contacts and collection of initial site information and sampling data. It is assumed that the authority for issuance of water replacement orders would reside with the Division of Oil and Gas, or in the unlikely event the Division no longer exists, this authority would be transferred to another division within the State government.

#### Monitoring

Section 4.3 of the Draft EIS/EA outlined the purpose of a monitoring program. Public comments received during the 60-day review period reflected a need for more detail in regard to what will constitute investigations, when they would be done, and how often. Table D-3, "Investigation," in Appendix D of the Draft EIS/EA outlined what investigations would be done during each phase of oil and gas operations. Some of the information presented in this table has been modified as a result of public comments and additional information received during public review of the Draft EIS/EA.

Due to budgetary constraints, the ODNR has requested that all references to the Division of Oil and Gas inspection or monitoring capability be deleted from the Draft EIS/EA (see Appendix B, page 52). This is reflected in the table on the following page. In addition, the Trembly County Soil and Water Conservation District Commission indicated in July, 1995 that the agency would conduct well site inspections and existing agreements with the Ohio Environmental Protection Agency and the ODNR Division of Oil and Gas (Brown, 1995). Well sites would be inspected during construction and drilling activities and work to ensure proper sediment



## Inspections

| Federal Directional Wells or Private Wells in Federal Agreements |                                       |                                                                            |                                                                      |                                                                                                |
|------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Inspection Type →                                                | Site Construction                     | Drilling                                                                   | Production                                                           | Plugging/<br>Abandonment                                                                       |
| Inspection Entity                                                | (Frequency)                           | (Frequency)                                                                | (Frequency)                                                          | (Frequency)                                                                                    |
| BLM Environmental Specialist (from Milwaukee Field Office)       | During construction<br>1-2 days       | as needed                                                                  | as needed                                                            | as needed                                                                                      |
| BLM Petroleum Engineering Technician (from Marietta, Ohio)       | as needed                             | Setting of surface casing<br><br>Blowout preventor tests<br><br>1 per week | Production accountability, including site security<br><br>1 per year | Setting of plug over producing formation<br><br>Setting of plug below aquifers<br><br>1-3 days |
| ODNR Division of Oil and Gas Inspector                           | ----                                  | ----                                                                       | ----                                                                 | ----                                                                                           |
| Trumbull County Soil and Water Conservation District             | During construction<br><br>1 per week | During drilling<br><br>1 per week                                          | ----                                                                 | ----                                                                                           |
| Operator                                                         | daily                                 | daily                                                                      | every 1-2 days                                                       | daily                                                                                          |

In addition to inspection entities shown above, Bazetta Township personnel would inspect oil and gas operations for compliance with township regulations. Bazetta Township inspections can be found on Table D-3, Appendix D in the Draft PA/EA. Certain Bazetta Township regulations would extend to Mecca and Greene Townships (see list on page 32-33). These regulations would be enforced by BLM through conditions attached to the drilling permit or as terms of the Federal agreement.

A more detailed discussion of these inspections follows under short- and long-term monitoring actions.

### Short-Term Monitoring Actions

For federally permitted wells or private wells participating in a Federal agreement, site inspections will take place prior to any surface disturbing activities. During these inspections, the operator's proposed drilling and surface use plans would be discussed. Typical attendants at these inspections include a BLM representative; adjacent surface management agencies; other Federal/State/local entities, as appropriate, e.g. Natural Resource Conservation Service or U.S. Fish and Wildlife Service; the oil and gas operator; and the landowner. The proposed and/or staked well sites, tank batteries,



operator and the landowner. The proposed and/or stated well sites, tank batteries, Resource Conservation Service or U.S. Fish and Wildlife Service, the oil and gas management agreement, other Federal/State/Local entities as appropriate, e.g. National Typical standards at these inspections include a BLM representative; adjacent surface inspection; the operator's proposed drilling and surface use plans would be discussed; inspection will take place prior to any surface disturbing activities. During these inspections, the operator is permitted to place or private wells participating in a Federal agreement, site

### Short-Term Monitoring Activities

A more detailed discussion of these inspections follows under short- and long-term monitoring activities.

In addition to inspection activities shown above, BLM's Township personnel would inspect oil and gas operations for compliance with various regulations. BLM's Township personnel can be found on Table D-1, Appendix D in the Draft FEA. Further, BLM's Township personnel would extend to Mineral and Geologic Township (see for on page 21-22). These regulations would be enforced by BLM Township personnel attached in the drilling permit or as terms of the Federal agreement.

| Inspection Type      | Inspection Frequency | Inspection Location | Inspection Method | Inspection Frequency | Inspection Location | Inspection Method | Inspection Frequency | Inspection Location | Inspection Method |
|----------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|
|                      |                      |                     |                   |                      |                     |                   |                      |                     |                   |
| Initial Inspection   | 1-2 days             | As needed           | As needed         | As needed            | As needed           | As needed         | As needed            | As needed           | As needed         |
| Annual Inspection    | 1-2 days             | As needed           | As needed         | As needed            | As needed           | As needed         | As needed            | As needed           | As needed         |
| Quarterly Inspection | 1-2 days             | As needed           | As needed         | As needed            | As needed           | As needed         | As needed            | As needed           | As needed         |
| Monthly Inspection   | 1-2 days             | As needed           | As needed         | As needed            | As needed           | As needed         | As needed            | As needed           | As needed         |
| Weekly Inspection    | 1-2 days             | As needed           | As needed         | As needed            | As needed           | As needed         | As needed            | As needed           | As needed         |
| Daily Inspection     | 1-2 days             | As needed           | As needed         | As needed            | As needed           | As needed         | As needed            | As needed           | As needed         |

### Inspections



access roads, and pipeline locations will be analyzed so that site specific recommendations and mitigation measures may be developed and incorporated into the site construction/drilling proposal.

BLM's inspection program includes environmental, drilling, production and abandonment/reclamation related inspections. Inspections are prioritized based on a number of criteria. BLM will rank both environmental and drilling inspections as a high priority should wells be drilled in this area. BLM would be notified at the start of site construction activities and well drilling. BLM personnel would inspect site construction activities to ensure proper implementation of protection measures. Adjacent surface management agencies, surface owners, and other local, State or Federal agencies, as appropriate, would also be notified of inspections that may be scheduled.

Under the Clean Water Act, a permit is required for discharge of pollutants into the waters of the United States through the National Pollutant Discharge Elimination System (NPDES). NPDES permits are required for sites at least five acres in size. Since typical well sites are less than five acres in size, an NPDES permit is not required. However, operators are still responsible for implementation of best management practices to control runoff and soil erosion. Although a permit is not required, the Trumbull County Soil and Water Conservation District Commissioner has indicated that District staff would inspect well sites during site construction and drilling operations to ensure proper implementation of best management practices (Brown, 1998).

Drilling inspections would be conducted by BLM staff to ensure compliance with the conditions or terms of the approved drilling permit(s)/agreement(s). Inspections during drilling operations typically occur during critical phases of the drilling operation. This would include testing of the blowout preventer, witnessing the setting and cementing of surface casing, and compliance with air drilling requirements, if applicable.

Once the drilling is completed, the well would either be put into production or plugged and abandoned. Site restoration and reclamation would be done on those areas no longer needed for oil and gas related activities (for non-productive wells, the entire well site would be reclaimed as quickly as possible). BLM would inspect reclaimed areas on productive wells to ensure that the site is properly revegetated/stabilized. Once productive wells have been depleted, production equipment would be removed and the wells would be plugged and abandoned. Those areas used for production facilities would also be reclaimed. BLM would witness plugging operations. Prior to release of the Federal bond (for federally permitted wells) BLM would ensure that appropriate reclamation has taken place. This would either be done through a site inspection or consultation with the surface owner and adjacent surface management agencies. State bonds are also required. Bonds are detailed in Appendix D, Table D-2 of the Draft PA/EA.



access roads, and pipeline locations will be analyzed so that site specific recommendations and mitigation measures may be developed and incorporated into the site construction plan.

BLM's inspection program includes environmental, drilling, production and abandonment/operations related inspections. Inspections are prioritized based on a number of criteria. BLM will rank both environmental and drilling inspections as a high priority should wells be drilled in the area. BLM would be notified at the start of the construction activities and well drilling. BLM personnel would inspect the construction activities to ensure proper implementation of protection measures. Adjacent surface management agencies, surface owner, and other local, State or Federal agencies, as appropriate, would also be notified of inspections that may be scheduled.

Under the Clean Water Act, a permit is required for discharge of pollutants into the waters of the United States through the National Pollutant Discharge Elimination System (NPDES). NPDES permits are required for sites at least five acres in size. Sites typical with less than five acres in size are not required to obtain a permit. However, operators are still responsible for implementation of best management practices to control runoff and soil erosion. Although a permit is not required, the Trenching, Drilling, and Water Conservation District Commission has indicated that District staff would inspect well sites during the construction and drilling operations to ensure proper implementation of best management practices (Bureau, 1998).

Drilling inspections would be conducted by BLM staff to ensure compliance with the conditions or terms of the approved drilling permit(s)/agreement(s). Inspections during drilling operations typically occur during critical phases of the drilling operation. The wells include testing of the blowout preventer, witnessing the setting and cementing of surface casing, and compliance with air drilling requirements, if applicable.

Once the drilling is completed, the well would either be put into production or plugged and abandoned. Site restoration and reclamation would be done on those areas no longer needed for oil and gas related activities (for non-productive wells, the entire well site would be reclaimed as quickly as possible). BLM would inspect reclaimed areas on productive wells to ensure that the site is properly revegetated/landfilled. Once productive wells have been drilled, production equipment would be removed and the wells would be plugged and abandoned. These areas used for production facilities would also be reclaimed. BLM would witness plugging operations. Prior to release of the Federal land (for federally permitted wells) BLM would ensure that appropriate reclamation has taken place. This would either be done through a site inspection or consultation with the surface owner and adjacent surface management agencies. State bonds are also required. Bonds are detailed in Appendix D, Table D-1 of the Draft EIS.



## **Long-Term Monitoring Actions**

BLM production inspections, conducted by a Petroleum Engineering Technician, are conducted once per year during the producing phase of a well. Inspections include an assessment of compliance with the conditions/terms of the permit/agreement, verification of production for royalty purposes, and a determination of whether site security, protection of public health and safety, and the general environment is adequate. BLM would coordinate monitoring efforts with the adjacent surface management agencies, where appropriate. Should the COE or ODNR observe problems or receive complaints specific to well sites or production facilities, BLM would be contacted and appropriate action would be taken to correct the situation.

During the production phase, regular inspection and preventive maintenance visits to the well and production facility would be made by the operator's well tender/pumper. These are opportunities for the operator to identify and quickly remedy problems that may occur.

## **AGENCY AND PUBLIC COMMENTS AND BLM'S RESPONSES**

BLM received fourteen letters during the 60-day public comment and governor's consistency review period. In addition, one letter was received and accepted for the record after the comment period. Five of these letters were from government entities, including the U.S. Fish and Wildlife Service, Congressman Traficant's office, Trumbull County Sanitary Engineer's Office, Cortland City Fire Department, and the Bazetta Township Fire Department. The ODNR and COE, Pittsburgh District responded in their capacities as cooperators on the plan. The remaining eight letters were from members of the public. In accordance with the NEPA regulations (40 CFR 1503.4), BLM, is responding herein to comments which were deemed to be substantive in nature. Comments which voiced preference for or against a particular alternative or which stated unsubstantiated allegations were not considered substantive under the regulations.

Copies of letters received during the public comment period can be found in Appendix B (page 68). Substantive comments contained within the letters are underlined/highlighted in Appendix B and appropriate responses are provided below. These responses include the name/title of entity/person making the comment, the date the comment was received, a summary or direct restatement of the comment, and the response.

**CORTLAND CITY FIRE DEPARTMENT, WILLIAM C. NOVAKOVICH, CHIEF OF FIRE - May 12, 1998**

**COMMENT:** Statements on page 4-73 of the Draft PA/EA under "Impact to Local Emergency Response Capability" could give a false sense of security. The



BLM production inspection, conducted by a Licensed Engineering Technician, are conducted once per year during the production phase of a well. Inspections include an assessment of compliance with the conditions of the permit, verification of production for safety purposes, and a determination of whether the security, protection of public health and safety, and the general environment is adequate. BLM would coordinate monitoring efforts with the adjacent surface management agencies, where appropriate. Should the COB or ODNR observe problems or receive complaints specific to well area or production facilities, BLM would be contacted and appropriate action would be taken to correct the situation.

During the production phase, regular inspection and preventive maintenance visits to the well and production facility would be made by the operator's well technician. There are opportunities for the operator to identify and quickly remedy problems that may occur.

## AGENCY AND PUBLIC COMMENTS AND BLM'S RESPONSES

BLM received letters during the 60-day public comment period and government's monitoring review period. In addition, one letter was received and accepted for the record after the comment period. Five of these letters were from government entities, including the U.S. Fish and Wildlife Service, Congressman Tiberius F. Brown, County Board of Supervisors, Office of the County Auditor, and the Board of Supervisors. The ODNR and COB, through District responded to each comment as appropriate on the plan. The remaining eight letters were from members of the public. In accordance with the NEPA regulations (40 CFR 1503.4), BLM is responding herein to comments which were deemed to be substantive in nature. Comments which asked questions or requested a particular alternative or which stated unsubstantiated allegations were not considered substantive under the regulations.

Copies of letters received during the public comment period can be found in Appendix B (page 68). Substantive comments regarding the letters are underlined/highlighted in Appendix B and appropriate responses are provided below. These responses include the name of the entity/person making the comment, the date the comment was received, a summary or direct restatement of the comment, and the response.

CORRECTION: CITY FIRE DEPARTMENT, WILLIAM C. NOVAKOVICH, CHIEF OF FIRE -  
May 12, 1998

COMMENT: Statement on page 4-73 of the Draft EA under "Impact to Local Emergency Response Capabilities" could give a false sense of security. The



Department has responded to and handled emergencies in the past dealing with oil and gas wells. However, the Department lacks equipment and expertise to handle an incident that would directly contaminate a community's drinking water. If an incident involved contamination of the lake, the Department's response role would be limited due to lack of equipment.

RESPONSE: In addition to the response below, please refer to page 4-72, "Reporting Requirements", page 4-73, "Impact to Local Emergency Response Capability", pages D-15 through D-17, "General Reporting Requirements", "Oil Spills and Oil Spill Response", "Emergency Response (Other Than Spills)", and Table D-5, "Reporting Requirements for Crude Oil Spills" of the Draft PA/EA.

BLM did not intend to give the impression that local fire departments have all equipment and training necessary to respond to and handle an oil spill in Mosquito Creek Lake. BLM recognizes that the fire departments are an essential part of a much larger community of responders which would be mobilized to respond to an oil spill.

The fire departments and the oil and gas operator's personnel are usually the first responders to an oil release. The oil and gas operator is responsible for stopping the source of the spill and for containment and clean-up of the spill. The oil and gas operator is required to cooperate with and aid the fire department. Oil and gas operators have designated company personnel who are responsible for spill response, primary and back-up work forces, equipment, clean-up materials and contractors available on a 24-hour basis for spill response. Under regulations for Spill Prevention Control and Countermeasure (SPCC) Plans (40 CFR 112), operators are required to prepare an SPCC Plan for production facilities within six months of beginning operations and implement the Plan as soon as possible, but no later than one year after beginning operations. For mobile facilities, which include drilling rigs, SPCC Plans must be prepared and implemented prior to any activity. The operator's SPCC Plans outline names and phone numbers of company personnel, primary and stand-by work forces, and contractors that would be called into action, and list the local, State and Federal agencies that will be contacted in the case of a spill.

The focus of local responders is usually directed toward abating immediate threats to public safety and property. According to the Trumbull County Local Emergency Planning Committee (LEPC), backup support for local fire departments is available from the County HazMat Teams, the LEPC, and through mutual aid agreements with other departments and agencies (Bartlomain, 1998). Additional support could be provided by the Vienna Air Base emergency response team located at the Warren-Youngstown Regional



Department has responded to and handled situations in the past dealing with oil and gas wells. However, the Department lacks equipment and expertise to handle an incident that would directly compromise a community's drinking water. If an incident involved contamination of the lake, the Department's response rate would be limited due to lack of equipment.

RESPONSE: In addition to the response forms, please refer to page 4-11, "Reporting Requirements," page 4-12, "Response to Local Emergency Response Capability," pages 4-13 through 4-17, "General Reporting Requirements," "Oil Spills and Oil Spill Response," "Emergency Response (Other Than Spills)," and Table 1-2, "Reporting Requirements for Crude Oil Spills" of the Draft FABA.

BLM did not intend to give the impression that local fire departments have all equipment and training necessary to respond to and handle an oil spill in Montana's Great Lakes. BLM recognizes that the fire departments are an essential part of a much larger community of responders which would be involved in response to an oil spill.

The fire departments and the oil and gas operator's personnel are usually the first responders to an oil release. The oil and gas operator is responsible for stopping the source of the spill and for containment and clean-up of the spill. The oil and gas operator is required to designate well and site fire department. Oil and gas operators have designated company personnel who are responsible for spill response, safety and back-up work force, equipment, clean-up materials and containment available on a 24-hour basis for spill response. Under regulations for Spill Prevention Control and Countermeasures (SPCC) Plan (40 CFR 112), operators are required to prepare an SPCC Plan for production facilities within six months of beginning operations and implement the Plan as soon as possible, but no later than one year after beginning operations. For mobile facilities, which include drilling rigs, SPCC Plans must be prepared and implemented prior to any activity. The operator's SPCC Plan includes names and phone numbers of company personnel, primary and secondary work force, and contractors that would be called for action, and the local State and Federal agencies that will be contacted in the case of a spill.

The focus of local response is usually directed toward shutting down the threat to public safety and property. According to the Trans-Alaska Pipeline Emergency Planning Committee (LLP), backup support for local fire departments is available from the County, Alaska, the LLP, and through mutual aid agreements with other departments and agencies. (Statute, 1993). Additional support would be provided by the Western Air Base emergency response team located at the Western-Yukon Regional



Airport (Bartlomain, 1998).

Ohio Environmental Protection Agency (OEPA) has State oversight for spills in navigable waters such as Mosquito Creek Lake and its tributaries. The OEPA Emergency Response Unit (ERU) has spill responders to aid in chemical identification, containment, cleanup, public safety, and identification of parties responsible for a spill. If a spill in water is reported, the ERU would dispatch an on-scene coordinator (OSC) to the spill site. The OEPA's Northeast District Office has 4 OSCs available on a 24-hour basis, year-round. In addition, the ODNR, Division of Oil and Gas would dispatch an oil and gas inspector to the scene. The Division's oil and gas inspectors are likewise available on a 24-hour basis, year-round. If the Division of Oil and Gas' inspector arrives first, the inspector would coordinate corrective action until the OEPA OSC arrives.

The OSC works with the Division of Oil and Gas, local fire department, HazMat teams, and any other responders to determine if the oil and gas operator is taking appropriate and timely measures to contain and clean up a spill. Either OEPA or the Division of Oil and Gas can require the operator to take additional measures or provide additional manpower and equipment. If the oil and gas operator cannot be identified or is unwilling or unable to undertake adequate and expeditious containment and clean-up actions, the ERU can activate a contractor to contain or clean up the spill. The Division of Oil and Gas ~~can also~~ activate contractors for spill containment or cleanup, but in the case of spills into navigable waters, the Division would leave this action primarily to OEPA. Both agencies have developed lists of spill response contractors that are available to respond on a 24-hour basis. OEPA would continue to monitor cleanup and remediation efforts until it was determined that all oil was adequately removed and that all areas had been adequately restored.

Similar response efforts would be made for dry land oil spills except that the Division of Oil and Gas would be the OSC throughout the spill response, containment, clean-up, and remediation efforts.

When incident response is beyond the capability of State response, U.S. EPA and/or U.S. Coast Guard is authorized to take response measures deemed necessary to protect the public health or welfare or the environment from discharges of oil or releases of hazardous substances, pollutants, or contaminants.

Oil spill response and emergency response are addressed in several levels of inter-related contingency plans:

- oil and gas operator SPCC Plans (oil spill contingency plan portion) for each production facility and HAZWOPER Emergency Response Plan;



The Environmental Protection Agency (EPA) has some oversight for spills in navigable waters such as Mississippi Lake and its tributaries. The EPA Emergency Response Unit (ERU) has spill response in oil and chemical identification, containment, cleanup, public safety, and identification of parties responsible for a spill. If a spill in water is reported, the ERU would dispatch an on-scene coordinator (OSC) to the spill site. The EPA's Northeast District Office has a OSC available on a 24-hour basis, year-round. In addition, the ONR, Division of Oil and Gas would dispatch an oil and gas inspector to the scene. The Division's oil and gas inspectors are likewise available on a 24-hour basis, year-round. If the Division of Oil and Gas' inspector arrives first, the inspector would coordinate corrective action until the EPA OSC arrives.

The OSC works with the Division of Oil and Gas, local fire department, Hazmat team, and any other responders to determine if the oil and gas situation is taking appropriate and timely measures to contain and clean up a spill. Either EPA or the Division of Oil and Gas can require the response to take additional measures or provide additional support and equipment. If the oil and gas operator cannot be identified or is unwilling or unable to undertake adequate and expeditious containment and clean-up action, the ERU can activate a contractor to contain or clean up the spill. The Division of Oil and Gas would activate a contractor for spill containment or cleanup, but in the case of spills in navigable waters, the Division would leave this action primarily to EPA. Both agencies have developed lists of spill response contractors that are available to respond on a 24-hour basis. EPA would continue to monitor cleanup and restoration efforts until it was determined that all oil was adequately removed and that all users had been adequately restored.

Similar response efforts would be made for dry land oil spills except that the Division of Oil and Gas would be the OSC throughout the spill response, containment, clean-up, and remediation efforts.

When incident response is beyond the capability of State response, U.S. EPA and/or U.S. Coast Guard is authorized to take response measures deemed necessary to protect the public health or welfare or the environment from discharges of oil or releases of hazardous substances, pollutants, or contaminants.

Oil spill response and emergency response are addressed in several levels of inter-related contingency plans:  
- oil and gas operator SPCC Plans (oil spill contingency plan portion) for each production facility and HAZWOPER Emergency Response Plan



- Trumbull County's Emergency Operations Plan, Annex P (Gas and Oil Well Emergency Response Plan) and Annex O (Hazardous Materials Emergency Response);
- Ohio Emergency Management Agency's Emergency Operations Plan and State Hazardous Materials Plan;
- the U.S. EPA Region 5 Oil and Hazardous Substances Pollution Contingency Plan (Region 5 includes Ohio and five other states); and
- the National Oil and Hazardous Substances Pollution Contingency Plan (Title 40 Code of Federal Regulations Part 300).

In general, the oil and gas operator plans identify personnel responsible for an emergency response or oil spill, available manpower, equipment, and contractors. In general, the county, State, regional, and national contingency plans outline reporting requirements for oil spills, hazardous material releases, or other emergency incidents, response agencies that would be activated, on-scene coordinator or incident command responsibilities, available resources, and the level of response action that would occur based on the size or type of incident.

The COE's Mosquito Creek Lake Operational Management Plan, Pollution Surveillance and Mitigation Section specifies notification of local fire and police departments and the OEPA-ERU and information to be provided in the case of an oil or chemical spill into the lake or on COE lands.

**THOMAS F. HOLLOWAY, SANITARY ENGINEER - May 14, 1998**

COMMENT: "Attached are the water quality standards from Ohio Administrative Statutes Rule 3745-1-07 that should be also reviewed and addressed with regard to Section 3.5 Water Resources of the Mosquito Lake Draft Planning Analysis/Environmental Assessment. These standards indicated there are limitations or impacts that exists (See Highlighted ones). These standards should be reviewed against what may be expected to occur from oil and gas development. Consideration should be given to air contaminant's (VOC's) possibly ending up in surface and ground water." (Note: Standards are not reproduced in Public Comment Letters.)

RESPONSE: We appreciate the updated copy of the State of Ohio's water quality standards. Table 3-3 in Section 3.5 of the Draft PA/EA has been updated accordingly, including the addition of the aquatic life standards (ALS) column for trace metals and volatile organic compounds (see Table 3-3 (revised), page 2 of this document). The BLM agrees that these standards do establish limits against which potential impacts may be measured. However, we disagree that these standards indicate that impacts exist. Analysis related to these standards is discussed on pages 2-3.



- Trenchard County Emergency Operations Plan, Annex F (Gas and Oil Well)
- Emergency Response Plan and Annex G (Hazardous Materials Emergency Response)
- Ohio Emergency Management Agency's Emergency Operations Plan and State Hazardous Materials Plan
- the U.S. EPA Region 5 Oil and Hazardous Substances Pollution Contingency Plan (Region 5 includes Ohio and five other states) and
- the National Oil and Hazardous Substances Pollution Contingency Plan (Title 40 Code of Federal Regulations Part 300)

In general, the oil and gas operator plans identify personnel responsible for an emergency response to oil spills, available manpower, equipment, and resources. In general, the county, State, regional, and national contingency plans outline reporting requirements for oil spills, hazardous material releases, or other emergency incidents. Response agencies that would be activated on-scene coordinate or incident command responsibilities, available resources, and the level of response actions that would occur based on the size or type of incident.

The CDE's Muskegon Creek Lake Operational Management Plan, Pollution Surveillance and Mitigation Section specifies notification of local fire and police departments and the OETA-ERU and information to be provided in the case of an oil or chemical spill into the lake or on CDE lands.

THOMAS F. HOLLOWAY, SANITARY ENGINEER - May 14, 1998

COMMENT: Attached are the water quality standards from Ohio Administrative Code 3745-1-07 that should be reviewed and addressed with regard to Section 3.2 Water Resources of the Muskegon Creek Drain Planning Analysis/Environmental Assessment. These standards indicate that the limitation or impact that exists (See Highlighted areas). These standards should be reviewed against what may be expected to occur from oil and gas development. Consideration should be given to oil contaminants (VOCs) possibly ending up in surface and ground water. (Note: Standards are not reproduced in Public Comment Letter.)

RESPONSE: We appreciate the updated copy of the State of Ohio's water quality standards. Table 3-3 in Section 3.2 of the Draft RAA has been updated accordingly, including the addition of the aquatic life standards (ALS) column for trace metals and volatile organic compounds (see Table 3-3 (revised), page 3 of this document). The BLM agrees that these standards do establish limits against which potential impacts may be measured. However, we disagree that these standards indicate that impacts exist. Analysis related to these standards is discussed on pages 2-3.



With regard to VOCs, please refer to Section 4.2.7, pages 4-48 and 49, of the Draft PA/EA. The maximum annual VOC emissions that could be generated by oil and gas operations resulting from leasing is 12 tons per year. The OEPA projected that annual emissions from point, area, and mobile sources in Trumbull County would be 16,086.28 tons per year in 1993/94 and 16,118.035 tons per year in 2006. An additional emission of 12 tons represents an increase of only 0.07% to 0.08% over the total emissions for 1993/94 and 2006. It would not be possible to distinguish changes in water quality caused by such a small increase in VOCs from changes caused by the much larger existing background levels of VOCs generated by point, area, and mobile sources.

**RICHARD LEE STAHL** - May 18, 1998

**COMMENT:** A spill and a fire occurred at a production facility in spite of the facility being built to existing codes; the fire could not be extinguished because the dike was full of oil and application of a water spray to cool the metal equipment caused flaming oil to flow out of the dike; what would happen if a dike were full of oil and a rain storm caused the oil to spill out and contaminate the water supply?

**RESPONSE:** Please see Appendix A, page A-12 of the Draft PA/EA. Per Title 43 Code of Federal Regulations, Part 3160, Subpart 3162.7-1, Disposition of Production, accumulation of oil inside the dike is not permitted except in emergency situations. BLM will require that all tank batteries be surrounded by an impervious dike capable of containing 200% of the total volume of the storage tanks in the battery. This will provide more than sufficient storage capacity in the case of rain events. In order to minimize the chance of vandalism at wells and tank batteries, BLM will require that wellheads and tank batteries be secured by fencing with locked gates and access roads with a locked gate or cable to limit access (see page A-17 of the Draft PA/EA). Gate keys would be made available to BLM, the township Zoning Inspector, if applicable, and the fire department.

**KATHY MACHINGO** - May 26, 1998

**COMMENT:** "The EA/PA does not adequately address all the issues. The EA/PA clearly minimizes the risk of groundwater contamination, air quality, and noise pollution in having a total disregard for the people in the demographic area affected."

**RESPONSE:** The Draft PA/EA used all available information. Sections 4.2.4 and 4.2.7 include analyses related to potential impacts to groundwater and air quality, including impacts from noise. Risk assessments documented in the Draft PA/EA were based on historical data. For discussion of risk assessment, see RESPONSE to COMMENT from Mr. Hernon (page 85 of Warren transcript), page 45.



With regard to VOCs, please refer to Section 4.2.7, Tables 4-48 and 4-49, of the Draft EIR. The maximum annual VOC emissions that could be generated by oil and gas operations resulting from leasing is 13 tons per year. The OGI-A projected that annual emissions from point, area, and mobile sources in Tarrant County would be 16,182.28 tons per year in 1993-94 and 16,118.012 tons per year in 2005. An additional emission of 12 tons represents an increase of only 0.0007 in this over the total emissions for 1993-94 and 2005. It would not be possible to distinguish changes in water quality caused by such a small increase in VOCs from changes caused by the much larger existing background levels of VOCs generated by point, area, and mobile sources.

RICHARD LEE STARR - May 18, 1998

COMMENT: A spill and a fire occurred at a production facility in spite of the facility being built to prevent either the fire or the spill. The fire was caused by a gas leak and the spill was caused by a valve that was not properly closed. The fire and the spill caused the loss of production and the loss of revenue. The fire and the spill also caused the loss of lives and property. The fire and the spill were caused by human error and not by a design flaw. The fire and the spill were preventable and the facility should have been built to prevent them.

RESPONSE: Please see Appendix A, page A-15 of the Draft EIR. The fire and the spill were caused by human error and not by a design flaw. The fire and the spill were preventable and the facility should have been built to prevent them. The fire and the spill were caused by a gas leak and a valve that was not properly closed. The fire and the spill caused the loss of production and the loss of revenue. The fire and the spill also caused the loss of lives and property. The fire and the spill were preventable and the facility should have been built to prevent them. The fire and the spill were caused by human error and not by a design flaw. The fire and the spill were preventable and the facility should have been built to prevent them.

KATHY MACHINGO - May 20, 1998

COMMENT: The EIR does not adequately address all the issues. The EIR already mentions the risk of groundwater contamination, air quality, and noise pollution in having a total discharge for the project in the demographic area affected.

RESPONSE: The Draft EIR does not address all available information. Sections 4.2.4 and 4.2.5 include analyses related to potential impacts to groundwater and air quality, including impacts from noise. The analyses are documented in the Draft EIR. The EIR was based on historical data. For discussion of risk assessment, see RESPONSE to COMMENT from Mr. Hanson (page 22 of Waiver transcript), page 45.



COMMENT: The Draft PA/EA "does not address the use of or prohibition of radioactive materials by the drilling companies."

RESPONSE: After completion of drilling operations and prior to emplacement and cementing of the production casing, logging tools are lowered down the borehole. During retrieval of the logging tools, measurements are recorded that enable geologists to interpret the thickness, reservoir properties and fluid content of rock formations penetrated by the borehole.

Some logging tools contain encapsulated radioactive sources that emit radioactive energy after being lowered down hole. Radioactive material is not injected into the borehole during this process. The Nuclear Regulatory Commission tracks all radioactive materials used by the logging industry. Radioactive materials are transported according to U.S. Department of Transportation regulations. Sources are sealed during transportation and opened only when the tool is lowered in the borehole on a wireline. During transportation and on the land surface, the tools do not emit any detectable release of radioactive energy. Logging tools have been routinely used in Ohio since 1940 without any health or safety threatening incidents (Kell, 1998).

A typical "Clinton sandstone" log suite includes gamma ray, neutron and density logs. The gamma ray tool does not have a radioactive source and simply records the natural emission of gamma radiation from rocks penetrated by the borehole. Primarily, the tool records the emission of gamma rays from unstable isotopes in the uranium-radium series, thorium series and potassium 40. These elements tend to concentrate in clay-shales such as the Bedford Shale that separates the Cussewago and Berea Sandstone aquifers and the Ohio Shale that underlies the Berea Sandstone.

Unlike the gamma ray tool, the neutron and density tools each have a double-encapsulated radioactive source. The neutron logging tool emits neutrons, typically from an Americium 241, Beryllium 9 or Radium 226 source. The neutrons are adsorbed by the nuclei of atoms in the fluids and solids in the well bore, and the tool records the resultant emission of low energy neutrons or gamma radiation. The density logging tool emits gamma radiation and records the intensity of gamma radiation reflected back by rock formations penetrated by the borehole.

COMMENT: "You [BLM] used outdated and inaccurate statistics in preparing the report to skew the outcome to the desired net effect."

RESPONSE: Information presented in the affected environment for wildlife, in general, was obtained from a 20 year old plan. However, the information about wildlife types and distribution is still valid. Descriptions of the existing



COMMENT: The Panel FABA "does not address the use of or prohibition of radioactive material by the drilling companies."

RESPONSE: After completion of drilling operations and prior to transportation and cementing of the production casing, logging tools are lowered down the borehole. During retrieval of the logging tools, measurements are recorded that enable geologists to interpret the thickness, porosity, permeability and fluid content of rock formations penetrated by the borehole.

Some logging tools contain encapsulated radioactive sources that emit radioactive energy after being lowered down hole. Radioactive material is not injected into the borehole during the process. The Nuclear Regulatory Commission tracks all radioactive materials used by the logging industry. Radioactive materials are transported according to U.S. Department of Transportation regulations. Sources are sealed during transportation and opened only when the tool is lowered in the borehole on a wireline. During transportation and on the land surface, the tools do not emit any detectable release of radioactive energy. Logging tools have been routinely used in Ohio since 1940 without any health or safety threatening incidents (Kell, 1993).

A typical "Cesium standard" log suite includes gamma ray, neutron and density logs. The gamma ray tool does not have a radioactive source and simply records the gamma radiation from naturally occurring radionuclides in the borehole. Neutron logs record the neutron-to-proton ratio of the formation. Gamma rays from naturally occurring radionuclides in the formation cause the neutron source and detector to respond. These elements tend to concentrate in clay-shales such as the Bedford Shale that separates the Cussewago and Fort St. Vrain sandstones and the Ohio Shale that underlies the Fort St. Vrain.

Unlike the gamma ray tool, the neutron and density tools each have a double-encapsulated radioactive source. The neutron logging tool emits gamma rays typically from an Americium 241, Beryllium 9 or Radium 226 source. The sources are shielded by the casing of steel in the fluid and solids in the well bore, and the tool records the resultant emission of low energy gamma rays from the formation. The density logging tool emits gamma radiation and records the intensity of gamma radiation reflected back by rock formations penetrated by the borehole.

COMMENT: "Yes [BLM] used outdated and inaccurate statistics in preparing the report to skew the outcome to the desired end effect."

RESPONSE: Information presented in the affected environment for wildlife, in general, was obtained from a 20 year old plan. However, the information about wildlife types and distribution is still valid. The statistics of the existing



environment were reviewed by ODNR staff and recommended changes, representing current information, were incorporated into the sections prior to releasing the Draft PA/EA. Information used to develop the sections on special status species, wetlands and fisheries/aquatic animals is more current as is indicated by the references. Special status species information was based upon communication with both ODNR and the U.S. Fish and Wildlife Service (USFWS) from 1996 to the present.

Four additional State listed species/concentrations of breeding animals were identified through comments recently provided by the ODNR. These species were added to Table 3-4 of the Draft PA/EA, which lists special status species that may be present within or near the planning area (see RESPONSE to COMMENT letter from ODNR, pages 21-22, and also Table 3-4 (revised), page 6). BLM did not conduct field surveys or site observations. The determination of whether or not special status species occur, or may occur, was based upon documented site observations provided by ODNR and USFWS. It should be noted that if leasing occurs, site specific assessment at the time a well site is proposed would identify the existence of special status species or their habitat. BLM recognizes the ODNR and USFWS as the subject matter experts in the area of special status species.

**DONALD WALDRON, ASSISTANT CHIEF TRUMBULL COUNTY HAZMAT, ASSISTANT CHIEF BAZETTA FIRE DEPARTMENT - June 4, 1998**

COMMENT: Trumbull County Hazardous Materials Team has never been consulted but was mentioned as a response agency in the Draft PA/EA.

RESPONSE: BLM consulted directly with Mr. Joseph Bartlomain, the Emergency Coordinator and Information Coordinator for the Trumbull County Local Emergency Planning Committee (LEPC) and the Director of the Trumbull County Emergency Management Agency (TCEMA). He provided BLM information concerning the HazMat teams that are available for emergency response in the county.

**JAMES ROBINSON - June 8, 1998**

COMMENT: "First everyone is concerned about the Balled Eagles in the game reserve. The proposed pipeline is slated to run rite through these endangered anamels habitate."

RESPONSE: The COE may approve permits for pipelines on a case-by-case basis. The document does not state that a pipeline has been proposed to run through bald eagle habitat. Bald eagle breeding and wintering habitat occurs within the Mosquito Creek Lake Wildlife Refuge and the larger Wildlife



environment were reviewed by ODNR staff and recommendations were made. Information was reported into the section prior to releasing the Draft EA. Information used to develop the section on special status species, wetlands and fisheries/wildlife animals is more current as it is indicated by the references. Special status species information was based upon communication with both ODNR and the U.S. Fish and Wildlife Service (USFWS) from 1998 to the present.

Four additional items listed special status species of breeding animals were identified through comments recently provided by the ODNR. These species were added to Table 3-4 of the Draft EA, which lists special status species that may be present within or near the planning area (see RESPONSE to COMMENT from ODNR, pages 21-22, and also Table 3-4 (revised)). BLM did not conduct field surveys or site observations. The determination of whether or not special status species occur, or may occur, was based upon documented site observations provided by ODNR and USFWS. It should be noted that if listing occurs, site specific assessment at the time a well site is proposed would identify the existence of special status species in their habitat. BLM recognizes the ODNR and USFWS as the subject matter experts in the area of special status species.

DOUGLAS WALDRON, ASSISTANT CHIEF, TRENHOLM COUNTY NATURE ASSISTANT  
CHIEF BAZZETTA FIRE TREATMENT - June 4, 1998

COMMENT: Trencholm County Naturalists Team has never been consulted but was mentioned as a resource agency in the Draft EA.

RESPONSE: BLM consulted directly with Mr. Joseph Bartholomew, the Emergency Coordinator and Information Coordinator for the Trencholm County Local Emergency Planning Committee (LEPC) and the Director of the Trencholm County Emergency Management Agency (TCEMA). He provided BLM information concerning the Hazmat teams that are available for emergency response in the county.

JAMES ROBINSON - June 8, 1998

COMMENT: That everyone is concerned about the Balded Eagles in the game reserve. The proposed pipeline is stated to run through these endangered animals habitat.

RESPONSE: The COE may approve permits for pipelines on a case-by-case basis. The document does not state that a pipeline has been proposed to run through bald eagle habitat. Bald eagle breeding and wintering habitat occurs within the Montezuma Creek Lake Wildlife Refuge and the larger Wildlife



Management Area. Drilling and development will not occur within these areas, and it is unlikely that well drilling and development would occur adjacent to this habitat. Drilling and development of Federal wells on private land would not be approved within one-half mile of active nest sites or established nesting territories.

COMMENT: "We are not hurting for these fossil fuels to justify the drilling."

Drilling and producing oil and gas is a very costly and economically risky venture. Planning and funding of oil and gas projects require many months, and sometime years, before anything is done on the lease itself. Leasing before emergencies or shortages develop gives oil and gas companies a reasonable amount of time to logically develop a property and ensures a continuous supply of energy at a reasonable cost to meet the public demand. Waiting until a shortage develops, like the oil embargoes of the 1970's, results in skyrocketing energy prices. In addition, BLM's policy is to foster and encourage private enterprise to orderly develop a stable domestic energy supply. BLM makes lands available for development of mineral and energy resources in a manner that is in balance with other land uses.

**OHIO DEPARTMENT OF NATURAL RESOURCES - June 10, 1998**

COMMENT: "The Division of Natural Areas and Preserves reviewed the Mosquito Creek Lake EA for rare species, special nature features and significant natural areas. The numbers and letters on the list below correspond to the areas marked in red and blue on the accompanying maps." (Note: Maps are not reproduced in Public Comment Letters.)

RESPONSE: The following State listed species/concentrations of breeding animals have been added to Table 3-4, "Special Status Species Which May be Present Within or Near the Mosquito Creek Lake Project Area" (see page 6):

False hop sedge - threatened

Hobblebush - species of concern

Great blue heron - breeding animal concentration

Cliff swallow - breeding animal concentration

COMMENT: "However, we believe that mitigation measures should also be specified within this section for the Eastern Massasauga and the other species and features listed above."

RESPONSE: The following two mitigation measures have been incorporated into Appendix A as special mitigation measures (see Appendix A, page 62-63).







- Removal of hobblebush will be avoided.

- Disturbances in massasauga habitat will be avoided or seasonal restrictions will be applied. Site inspections will be made to determine the potential for the presence of the massasauga or its habitat. If indicated, a survey would be required to document that the massasauga does not inhabit the area. If it is determined that the massasauga is present or potential habitat exists, surface disturbance will not be permitted from mid April through the end of October. Surface disturbance would also not be permitted if a site is identified as massasauga winter habitat.

Specific mitigation measures were not identified for some of the special status species, i.e. river otter, osprey, northern harrier, king rail, Virginia rail, great blue heron colony, clubshell mussel, cliff swallow colony, because they inhabit no surface occupancy areas which include the Wildlife Area and COE property (see Map 3 of Draft PA/EA). Mitigation measures developed for wetlands would also protect the following special status species: false hop sedge, clubshell mussel, eastern sand darter, oak-maple swamp.

COMMENT: "Under Alternative B, Subsurface Limitations, Page B-21, #5, ODNR believes that the Division of Parks and Recreation (DPR) should be included in addition to private mineral owners."

RESPONSE: It is appropriate to include ODNR Division of Parks and Recreation in the above referenced section.

COMMENT: "The ODNR, Division of Oil and Gas disagrees with the statement on Page 3-14 that "The Berea was the main oil and gas reservoir in the Mecca pool, and shows of oil, gas, and other contaminants are far more common in the Berea than in the Cussewago." Based upon our review of historical records and prepared cross-sections, we believe that oil and/or gas commonly occur in both formations."

RESPONSE: Comment noted. The recently completed U.S. Geological Survey report (USGS, 1998) acknowledges this disagreement and notes that oil was produced from both the Berea and Cussewago sandstones.

COMMENT: On page 2-8 of the Draft PA/EA (paragraph 4), "2 feet by 50 feet" should read "20 feet by 50 feet."

RESPONSE: Correction noted. BLM list of corrections dated 5/19/98 corrected this to read "25 feet by 50 feet."

COMMENT: "Since completion of the draft Planning Analysis/Environmental Assessment (PA/EA), the Division of Oil and Gas has become aware that declining



- Removal of habitats will be avoided.

- Disturbance in sensitive habitats will be avoided or seasonal restrictions will be applied. Site inspections will be made to determine the potential for the presence of the mussel or its habitat. If indicated, a survey would be required to determine that the mussel does not inhabit the area. If it is determined that the mussel is present in potential habitat areas, further disturbance will not be permitted from mid April through the end of October. Further disturbance would also not be permitted if a site is identified as mussel habitat.

Specific mitigation measures were not identified for some of the special status species, i.e. river otter, western river gill net, Virginia killifish, blue mussel, clapper mussel, cliff swallow colony, because they inhabit no surface occupancy areas which include the Wildlife Area and COE property (see step 3 of Draft PAEA). Mitigation measures developed for wetlands would also protect the following special status species: blue hop scotch, clapper mussel, river otter, darter, rock-creep sculpin.

COMMENT: Under Alternative B, Subsurface Limitation, Part B-21, 22, ODNH believes that the Division of Parks and Recreation (DPR) should be included in action to provide mineral owners.

RESPONSE: It is appropriate to include ODNH Division of Parks and Recreation in the above referenced action.

COMMENT: The ODNH Division of Oil and Gas disagrees with the statement on page 5-4 that "The Bites was the main oil and gas reservoir in the Bites pool, and shows of oil, gas, and other contaminants are far more common in the Bites than in the Overwago." Based upon our review of historical records and prepared cross-sections, we believe that oil and gas are commonly seen in both formations.

RESPONSE: Comment noted. The recently completed U.S. Geological Survey report (USGS, 1998) acknowledges this disagreement and notes that oil was produced from both the Bites and Overwago sandstones.

COMMENT: On page 5-4 of the Draft PAEA (paragraph 4), "2 feet by 30 feet" should read "20 feet by 30 feet."

RESPONSE: Comment noted. BLM has in correction dated 2/19/98 corrected this to read "25 feet by 30 feet."

COMMENT: Since completion of the Draft Planning Analysis/Environmental Assessment (PAEA), the Division of Oil and Gas has become aware that drilling



revenues may require significant staff reductions, up to 40 percent by FY 2000, that would jeopardize our ability to maintain prior inspection commitments. Specifically, if additional funds cannot be secured between now and FY 2000, the Division of Oil and Gas will terminate its ground water investigation program. Subsequently, the Division would refer all citizen complaints alleging contamination of private water supplies to the BLM or the County Health District Sanitarian. Furthermore, if the current revenue problems results in reductions in our field enforcement staff, ODNR cannot ensure that inspectors will be available to assist with specific site reviews, or that they will be available to enforce compliance with permit conditions. In light of these uncertainties, ODNR requests that all references to our inspection capability be deleted from the PA/EA."

RESPONSE: Given the ODNR Division of Oil and Gas' budgetary constraints, it is uncertain as to whether the Division will have hydrogeologists available to conduct groundwater investigations in relation to proposed leasing at Mosquito Creek Lake. Due to the fact that future Division funding levels and sources are unknown, an alternative means of implementing the investigation process has been developed. Under this alternative, an assumption is made that not all staff capability within the Division of Oil and Gas would be lost as a result of budgetary constraints. It is assumed that Division of Oil and Gas inspectors/investigators would be available to make initial field contact with the complainant and collect preliminary site data. Following the initial field contact and collection of site data, BLM would be responsible for coordination of the hydrogeologic/hydrochemical investigation. It should be noted that information provided by the two recent U.S. Geological Survey reports, including data on the hydrogeologic framework of the bedrock aquifers and baseline information relating to potential oil and gas contaminants, will prove valuable in resolving potential complaints (see page 3 for a summary of the reports). Groundwater investigations would follow procedures developed by the ODNR Division of Oil and Gas. These procedures have been documented in a Division manual providing guidance on conducting investigations primarily for violations of Section 1509.22 of the Ohio Revised Code involving contamination of soil, surface water or groundwater, and diminished water supply as a result of oil-field operations. BLM would utilize hydrogeologic expertise from the U.S. Geological Survey Columbus, Ohio; BLM National Applied Resource Sciences Center, Denver, Colorado; or others, as necessary. If, in the unlikely event, Division of Oil and Gas field inspectors/investigators are not available, BLM would perform initial field contacts and collection of initial site/sampling data. It is assumed that the authority for issuance of water replacement orders would remain with the Division of Oil and Gas, or in the unlikely event the Division no longer exists, this authority would be transferred to another division within the State government.

With respect to inspections, all references to the Division of Oil and Gas'



revenue may require significant staff reductions, up to 40 percent by FY 2001. That would jeopardize our ability to maintain peak inspection commitment. Specifically, if additional funds cannot be secured between now and FY 2001, the Division of Oil and Gas will terminate its ground water investigation program. Subsequently, the Division would enter all claims complaints and/or investigation of private water supplies to the BLM or the County Health District. Furthermore, if the current revenue problems persist in relation to the field enforcement staff, ODR cannot ensure that inspectors will be available to assist with specific site reviews or that they will be available to enforce compliance with permit conditions. In light of these uncertainties, ODR requests that all references to our inspection capability be deleted from the

PAGE 2

RESPONSE: Given the ODR Division of Oil and Gas' budgetary constraints, it is uncertain as to whether the Division will have hydrogeologists available to conduct groundwater investigations in relation to proposed leasing at Shoshone Creek Lake. Due to the fact that future Division funding levels and sources are uncertain, an alternative means of implementing the investigation process has been developed. Under this alternative, an assumption is made that not all staff capacity within the Division of Oil and Gas would be lost as a result of budgetary constraints. It is assumed that Division of Oil and Gas investigators would be available to make initial field contact with the complainant and collect preliminary site data. Following the initial field contact and collection of site data, BLM would be responsible for coordination of the hydrogeological investigation. It should be noted that this action is provided by the two recent U.S. Geological Survey reports, including data on the hydrogeologic framework of the Shoshone Creek and Shoshone Creek basins intended to potential oil and gas accumulations, will provide data to resolve potential complaints (see page 3 for a summary of the report). Groundwater investigations would follow procedures developed by the ODR Division of Oil and Gas. These procedures have been documented in a Division manual providing guidance on conducting investigations primarily for violations of Section 1509.22 of the Ohio Revised Code involving contamination of soil, surface water or groundwater, and diminished water supply as a result of oil-field operations. BLM would utilize hydrogeologic expertise from the U.S. Geological Survey, Ohio, BLM National Applied Research Science Center, Denver, Colorado, or others as necessary. If in the unlikely event, Division of Oil and Gas field inspectors/investigators are not available, BLM would perform initial field contact and collection of initial site sampling data. It is assumed that the authority for issuance of a replacement order would remain with the Division of Oil and Gas, or in the unlikely event the Division no longer exists, this authority would be transferred to another division within the State government.

With respect to inspection, all references to the Division of Oil and Gas



inspection capability (Section 4.5, Monitoring, and Appendix D, Table D-3) for Federal wells is considered deleted from the text of the Draft PA/EA. In the event the Division of Oil and Gas is unable to conduct inspections, BLM is committed to conducting inspections for any wells (private or Federal) that may be drilled as a result of a leasing decision at Mosquito Creek Lake. These inspections are outlined in the revised Monitoring section on page 11.

**U.S. ARMY CORPS OF ENGINEERS - June 10, 1998**

COMMENT #1: "Section 2.4, CRA's/CA's (Federal Agreements). It might be a good idea to add "NEPA Compliance" to the title of this section . . . Also recommended is a brief discussion comparing the process for reviewing APD's for Federal wells versus the procedures discussed for CA's and CRA's (the types of Federal agreements required for wells tapping both Federal and private resources)."

RESPONSE: Comment regarding title of section is noted. The process for reviewing APDs for Federal wells versus the procedures for CAs and CRAs is discussed on page 9.

COMMENT #2: "... note its (the Clinton sandstone zone) depth below the Cussewago sandstone . . ."

RESPONSE: The top of the Clinton sandstone zone is everywhere more than 4,000 feet beneath the base of the Cussewago sandstone. In the southern part of the area, the Clinton is about 4,200 feet beneath the base of the Cussewago.

COMMENT #3a: COE recommended stressing that the figures and wetlands maps are approximations based on a number of sources. Wetland maps and acreage determinations are approximations based upon the best available information. However, they are not exact. Site specific analysis by the COE Regulatory Branch would be required for proposed well sites to determine possible wetlands impacts.

RESPONSE: Comment noted.

COMMENT #3b: It was recommended that the terms "Planning Area" and "Project Area" be added to the glossary.

RESPONSE: Comment noted. These terms are currently listed in the glossary under Mosquito Creek Lake Planning Area and Mosquito Creek Lake Project Area.

COMMENT #4: Section 3.8, Noise. - A table which summarizes existing noise levels measured at various sites around the Mosquito Creek Lake Project would provide good basis for comparison with Tables 3-6 and 3-7 in the Draft PA/EA.







RESPONSE: See Table titled "Noise Levels Measured at Various Sites Around the Mosquito Creek Lake Project", page 7.

COMMENT #5: Table 4-1, "Special Status Species", Page 4-12 of the Draft PA/EA - In addition to the distance set-back mitigation measures mentioned, we would like to retain the option of making additional seasonal restrictions if site conditions warrant. For example, we may want to restrict drilling activities during the early portion of the bald eagle nesting cycle (most likely January to early February). We would coordinate with ODNR regarding the need for such a restriction and the exact timing of it.

RESPONSE: Due to the fact that site specific well sites are not known at this time, it is difficult to identify what type of seasonal restrictions may be necessary. Site specific analysis at the time well sites are proposed would be the appropriate time to assess this need. If impacts to special status species cannot be mitigated, drilling permits or Federal agreements would not be approved. The U.S. Fish and Wildlife Service, ODNR, and BLM believe that the restrictions identified for bald eagles are adequate to protect them. The term "active nest site", as used in the Draft PA/EA, was used to identify a nest site which has been in use from one year to the next, not just a nest which has a pair on the nest at the time an activity is proposed. The intent is to exclude drilling and development within one-half mile of the nest regardless of the time of year. The same restriction applies to established but unoccupied nesting territory.

COMMENT #6.

1) Concern that expansion of fissures in the rock of the production zone during hydrofracturing will "reactivate" improperly plugged or abandoned wells, possibly causing abandoned wells to flow to the surface and allow hydrocarbon reservoir fluids to reach the lake.

2) "We recommend that a determination be made as to the existence of plugged or abandoned gas wells in the planning area, particularly in the area that is now the lake bottom."

3) "In addition, the document should state that the issuance of any permit to drill does not authorize the driller to use "four spot" drilling/secondary recovery methods."

RESPONSE 1) and 2): Hydrocarbon production can be increased when fractures in the producing formation are extended to the planned length, and fracturing fluid is retained within the zone of interest. The volume of fracturing fluid and the rate this fluid is injected affects the extent of fractures from the wellbore. Fractures that break out of the zone increase the risk of excess water production with the hydrocarbon. Since it is undesirable for fractures to extend beyond the producing formation, industry designs fracture



RESPONSE: See Table titled "Water Levels Measured at 7 Wells Since August the Monticello Creek Lake Project," page 3.

COMMENT 4: Table 4-1, "Special Status Species," Page 4-13 of the Draft EIS. In addition to the distance set-back and ground movement mentioned, we would like to know the option of installing additional structural restraints if the conditions warrant. For example, we may want to restrict drilling activities during the early portion of the field-scale testing cycle (from March through January to early February). We would coordinate with OWR regarding the need for such a restriction and the exact timing of it.

RESPONSE: Due to the fact that the specific well sites are not known at this time, it is difficult to identify what type of structural restraints may be necessary. The specific analysis at the time well sites are proposed would be the appropriate time to assess this need. If impacts to special status species cannot be mitigated, drilling permits at Federal agencies would not be approved. The U.S. Fish and Wildlife Service, OWR, and BLM believe that the restrictions identified for field-scale testing are adequate to protect them. The term "active test site," as used in the Draft EIS, was used to identify a test site which has been in use from one year to the next, not just a test which has a part on the test at the time an activity is proposed. The intent is to exclude drilling and development within one-half mile of the test regardless of the test of year. The same restriction applies to established but unoccupied nesting territory.

COMMENT 5:

1) Current test operation is shown in the rock of the production zone during hydraulic fracturing with "reactive" impurities plugged or abandoned wells possibly causing subsidence with a flow to the surface and allow hydraulic fracture fluids to reach the lake.

2) "We recommend that a determination be made as to the existence of plugged or abandoned gas wells in the planning area, particularly in the area that is now the lake bottom."

3) "In addition, the document should state that the issuance of any permit to drill does not authorize the drill to use 'lost gas' drilling/secondary recovery methods."

RESPONSE 1) and 2) Hydraulic production can be increased when fractures in the production formation are extended to the planned length, and fracture fluid is retained within the zone of interest. The volume of fracture fluid and the rate this fluid is injected affects the extent of fractures from the wellbore. Fractures that break out of the zone increase the risk of excess water production with the hydrocarbon. Since it is undesirable for fractures to extend beyond the producing formation, industry designs fracture



treatments to accomplish this goal.

The first oil wells were drilled in the Mecca Pool around 1860. There are likely to be old, unplugged and unrecognizable Berea/Cussewago wells in this area, but according to U.S. Geological Survey studies, it is unlikely that any of them are in the flooded valley of Mosquito Creek (USGS, 1998). Some oil operations conducted in the area in the last century may have consisted of wells drilled laterally into the Berea outcrop, flowing by gravity into tanks lower in the valley. Such production methods were commonly used in the Appalachians during that time. There is approximately 4,400 feet of confining shale, salt and limestone deposits between the Berea/Cussewago sandstones and the Clinton formation. These intervening formations, in addition to the fact that these shallow aquifers would be protected by surface casing, would prevent "reactivation" of these old wells.

Clinton wells are subject to State spacing and setback requirements which set a minimum of 1,000 feet between wells in the Mosquito Creek Lake area. At this distance, hydrofracturing might allow communication, i.e. establish a reservoir pressure pathway, between wells, but could not "reactivate" an abandoned well even if improperly plugged. Because the Clinton sandstones in this area are believed to consist of "lentils" of sand separated by shales, the two wells would have to be completed in the same "lentil" for such an event to occur. In addition, hydrofracturing of the Clinton sandstone typically produces vertical fractures in the producing formation. Horizontal, or "pancake", fractures radiating from the wellbore are not typical. It should be noted that plugged and abandoned Clinton wells that exist in the vicinity of Mosquito Creek Lake are located at a distance of ½ to 1 mile away from the lake. Any wells that may be drilled as a result of leasing would be drilled between these abandoned wells and the lake. Therefore, any communication between these wells would not result in oil flowing from the wellbore into the lake. The Clinton wells in the area are very low-pressure wells, even when first completed. Should an abandoned, improperly plugged Clinton well somehow begin to flow, the brine and admixed hydrocarbon could reach neither the surface nor the deepest fresh water aquifers.

RESPONSE 3): Clinton sandstone in this area produces only small amounts of oil, thus secondary recovery operations would not be economically feasible and will not occur. There is no resemblance between this small gas field and the Bradford oil field of northwestern Pennsylvania, which has been in continuous production since 1860 from as many as 40 different producing zones.

COMMENT #7: Section 4.2.10, Socioeconomics. Figures for Federal royalty payments as stated in the text on page 4-63 of the Draft PA/EA don't correspond to 12.5% of hydrocarbon revenue figures represented in Tables 4-10 and 4-11, pages 4-







63 and 64.

RESPONSE: Royalty values for Alternatives A and B were generated by BLM staff using the Advanced Reserves Information and Evaluation System (ARIES) software program. The royalty model incorporated the following assumptions: 1) each well would recover 250,000 Mcfg (million cubic feet of gas) over an estimated 12 to 19 year producing life (the average reserves and life for a well in the area); 2) each well will produce oil at a rate of 5.56 barrels per million cubic feet of gas; 3) each well would receive \$2.40/Mcfg and \$18.00/BO (barrel of oil) for sale of product; and 4) each well will have an initial production rate of 2,500 Mcfg/month, which exponentially declines at 12%. These assumptions provided a figure of \$625,020 per well for total hydrocarbon production revenue. Twelve and one half percent of this figure yielded the Federal royalty value per well, which was divided by 50% owing to the assumed existence of compensatory royalty agreements with private surface owners. The result was then multiplied by 14 to obtain the final Federal royalty value of \$541,000 (adjusted according to the ARIES software) for Alternative A. For Alternative B, the Federal royalty value per well was multiplied by 27 (additional number of wells over 14), and the result then added to the final value obtained for Alternative A, thus yielding \$2.629 million as total Federal royalty payment per Alternative B. The final figures for both Alternatives would be multiplied by 75% to obtain the total royalty revenue value that would be returned to the State of Ohio.

Hydrocarbon revenues from sales (first column, Tables 4-10 and 4-11, pages 4-63 and 4-64 of the Draft PA/EA) were obtained by multiplying the figure for total hydrocarbon production revenue per well (\$625,020) by the number of wells for each Alternative. Twelve and one half percent (the Federal royalty rate) of these figures would not accurately represent expected Federal royalty payments because, as the above explanation describes, Federal royalty figures for any wells in the area of Mosquito Creek Lake must be adjusted to reflect compensatory royalty agreements and variable rates of hydrocarbon production over the life of the wells.

COMMENT #8: Section 4.2.10, Socioeconomics. This section of the Draft PA/EA does not adequately address economic and employment impacts to Trumbull County in the event that leasing would occur.

RESPONSE: Total Federal royalty payments were computed over 22 years for Alternative A, and over 17 years for Alternative B (Refer to RESPONSE to COMMENT #7 above). Total royalty payments to the State Treasury are estimated to be 75% of \$541,000 or \$405,750 for Alternative A, and 75% of \$2.629 million or \$1.972 million for Alternative B. Note that these figures represent royalties only and do not include rentals and bonus payments.







Royalty revenues returned by the Ohio State Treasurer to the Trumbull County Treasurer would differ from year to year given the variable annual rates of production from each well. It is the responsibility of Trumbull County to determine what portion of revenues will be allocated to Trumbull County's roads, schools or townships.

The employment impacts generated by the RIMS II model reflect estimates for new jobs that may be created, Statewide, over the term of either Alternative. At the local level, employment would be immediate and most considerable during construction and drilling at the well sites. Thereafter, fewer local jobs would be required to service the wells and maintain access roads.

COMMENT #9: Section 4.2.12 of the Draft PA/EA, Public Health and Safety - Emergency response capability: a) The public has a great deal of concern about the capability of local emergency personnel to respond to incidents at gas well sites; recommend that "Local Emergency Response Capability" section on page 4-73 of the Draft PA/EA be expanded to include additional detail on: what type of unit they are (paid or volunteer), the equipment they have available and the training their personnel have received; and, b) If local emergency response is deemed inadequate, BLM should consider funding equipment/training at the local level in support or disaster response effort. Has the possibility of utilizing the professionally trained and equipped emergency response teams such as at Youngstown-Warren Regional Airport been investigated?

RESPONSE: See also BLM RESPONSES to COMMENTS from Mr. Vogel (page 78-80, Warren transcript, pages 51-52 and page 58, Cortland transcript), pages 44, 49 and 50, and RESPONSE to COMMENT letter from the Cortland City Fire Department, page 14.

BLM has not received evidence that local emergency response capabilities are inadequate. As indicated in the responses referred to above, the local response agencies are part of a much larger response community. Emergency operations contingency plans exist at the county, State and Federal level. These emergency operations contingency plans often include the oil spill and hazardous material contingency plans referred to in the responses noted above. For emergencies such as fires or explosions, the local fire departments and the oil and gas operator would usually be the first responders to the incident. An ODNR, Division of Oil and Gas inspector would be dispatched to a scene that involves substantial risk of harm to public health and safety or damage to the environment. The inspector would provide coordination between the oil and gas operator, emergency response personnel and the public. The inspector would evaluate the effectiveness of remediation efforts. Depending on the type of emergency incident, additional backup is available to local fire departments through the county HazMat teams, the LEPC, mutual aid agreements with other



Emergency response required by the Ohio State Treasurer to the Trembly County  
Treasurer would differ from year to year given the variable amount paid by  
production from each well. It is the responsibility of Trembly County to  
determine what portion of response will be allocated to Trembly County's  
local, state or federal.

The emergency response required by the BLM II model would be different for  
each well that may be drilled, state well, over the term of either Alternative  
As the local level, response would be immediate and most considerable  
during construction and drilling at the well sites. Therefore, lower local  
would be required to ensure the wells and maintain access roads.

COMMENT: See Section 4.1.1 of the Draft PAEA, Public Health and Safety -  
Emergency response capability. a) The public has a great deal of concern about the  
capability of local emergency response to respond to incidents at gas well sites;  
commented that "Local Emergency Response Capability" section on page 4-73 of the  
Draft PAEA be expanded to include additional detail on what type of unit they are  
(paid or volunteer), the equipment they have available and the training their personnel  
have received, and, if it local emergency response is deemed inadequate, BLM should  
consider funding equipment training at the local level in support of disaster response  
effort. Has the possibility of utilizing the professionally trained and equipped  
emergency response teams such as at Youngstown-Warren Regional Airport been  
investigated?

RESPONSE: See the BLM RESPONSES to COMMENTS from Mr. Vogel  
page 35-36, Warren Township, pages 21-22 and page 28, Contand township,  
pages 41-42 and 50 and RESPONSE to COMMENT letter from the Contand  
City Fire Department, page 14.

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oil and gas operators would usually be the first responders to the incident. An  
OBER, Division of Oil and Gas inspector would be dispatched to a scene that  
presents substantial risk of harm to public health and safety or damage to the  
environment. The inspector would provide coordination between the oil and  
gas operator, emergency response personnel and the public. The inspector  
would oversee the effectiveness of remediation efforts. Depending on the type  
of emergency incident, additional backup is available to local fire departments  
through the county Hazard team, the LRP, mutual aid agreements with other



agencies and departments, and the Vienna Air Base emergency response team (Bartlomain, 1998). If an emergency incident exceeds the capacity of local government, local government can request the assistance of the State through the Ohio Emergency Management Agency.

The TCEMA/LEPC regularly runs emergency preparedness exercises for a variety of emergency incidents in the county. These exercises, which can involve as many as 200 people, are used to evaluate the effectiveness of the local emergency response community and identify areas that need to be improved (Bartlomain, 1998). The TCEMA/LEPC has preliminary plans to run an emergency preparedness exercise for an oil and gas incident sometime in the fall of 1998.

COMMENT #10: Section 4.2.12, Public Health and Safety Bonding of the Draft PA/EA. The statement that BLM will require additional bonding if an operator poses a risk leaves too much to the discretion of BLM. The COE's experience on the Allegheny National Forest suggests that bonding in excess of the amounts listed is necessary.

RESPONSE: Please refer to pages 4-73 and 74 of the Draft PA/EA, "Liability and Bonds", and Table D-2 on page D-7 and 8 of the Draft PA/EA. BLM views the Federal bond as a performance guarantee, not replacement cost insurance. BLM has authority to increase the Federal bond to the amount necessary to cover the entire cost of surface reclamation and plugging of a well. This increase can be required at any time during the life of the well. BLM would increase the bond only if there is a demonstrated and justifiable need to do so.

The BLM Milwaukee Field Office has roughly 800 operating Federal wells within its jurisdiction. In the past 15 years, the Field Office has only encountered one situation in which it was necessary to claim the Federal bond. This demonstrates the rarity of such circumstances.

The situation cited on the Allegheny National Forest cannot be directly compared to the Mosquito Creek Lake situation. No Federal oil and gas leases were involved. The BLM did not have any regulatory authority over the wells. The wells were on outstanding and reserved mineral rights subject to private oil and gas leases. These wells were subject to whatever bonds may have been required by the U.S. Forest Service for surface restoration (per Secretary of Agriculture Rules and Regulations for reserved mineral rights) and by the Commonwealth of Pennsylvania for well plugging.

COMMENT #11:

1) Section 4.3, Cumulative Impacts of the Draft PA/EA. "It is noted in the report



agencies and departments, and the Vienna Air Base emergency response team (Baltimore, 1999). If an emergency incident exceeds the capacity of local government, local government can request the assistance of the State through the Joint Emergency Management Agency.

The FEMA/ALBIC regularly runs emergency preparedness exercises for a variety of emergency incidents in the country. These exercises, which can involve as many as 200 people, are used to evaluate the effectiveness of the local emergency response community and identify areas that need to be improved (Baltimore, 1999). The FEMA/ALBIC has preliminary plans to run an emergency preparedness exercise for an oil and gas incident sometime in the fall of 1999.

COMMENT 410: Section 4.12, Public Health and Safety: Bonding of the Draft EIS. The statement that BLM will require additional bonding if an operator poses a risk to the public is not in the draft EIS. The COP's response on this subject is that the National Forest Management Plan (NFMP) requires bonding in excess of the amount listed in the NFMP.

RESPONSE: Please refer to pages 4-73 and 74 of the Draft EIS/EA, "Lithium and Boreas", and Table D-2 on page D-7 and 8 of the Draft EIS/EA. BLM views the Federal bond as a performance guarantee, not replacement cost insurance. BLM has authority to increase the Federal bond to the amount necessary to protect the public and the environment and planning of a well. This increase can be required at any time during the life of the well. BLM would increase the bond only if there is a demonstrated and justifiable need to do so.

The BLM National Field Office has roughly 800 operating Federal wells with a total production of 1.2 million barrels of oil and gas per year. The BLM National Field Office has only one well in which it was necessary to claim the Federal bond. The statement that the bond is not sufficient is not in the draft EIS/EA.

The statement that the National Forest cannot be directly compared to the National Forest is not in the draft EIS/EA. The National Forest is not a single entity. The BLM did not have any regulatory authority over the wells. The wells were on unmineralized and mineral rights subject to private oil and gas leases. These wells were subject to whatever bonds may have been required by the U.S. Forest Service for surface reclamation (see Section 4.12, Agricultural, Forest and Rangeland Resources for mineral rights) and by the Conservation of Forestlands for well plugging.

COMMENT 411: Section 4.12, Cumulative Impacts of the Draft EIS/EA. It is noted in the report



that 42% of the land adjacent to and within one-half mile of the project area is considered a "natural area". Although that term is not clearly defined, it is assumed that "natural areas" are comprised of a number of different types of habitat, from meadows to forests. . .".

2) "One of our concerns regarding oil and gas drilling at any project is the potential for habitat fragmentation, particularly involving conversion of forested land to the open areas associated with access roads and well sites."

3) The COE stated that it would be beneficial if the land use classification chart could be tied in with probable well locations, recognizing that exact locations cannot be determined at this time.

RESPONSE 1): Map 5, page 3-4 of the Draft PA/EA is a composite of data layers from three sources. Land use/land cover data was taken from: 1) the Ohio Capability Analysis Program (OCAP) (1977); 2) the Ohio Land Cover Inventory from the ODNR (1994); and 3) the COE Vicinity Inventory Map (Plate 4) from the Mosquito Creek Lake Master Plan (1994). Data from these three sources were compared and land use classifications were broadly grouped into the categories corresponding to those found on the COE Vicinity Inventory Map. In general, the areas identified as "natural areas" on Map 5 of the Draft PA/EA include areas identified as recreation, parks, water control, shrub and brush rangeland, deciduous forest land, evergreen forest land, wetlands, wet meadows, shallow marsh, and transitional areas.

RESPONSE 2): The potential for habitat fragmentation was considered during the analysis process. As stated on page 3-22 of the Draft PA/EA, the largest and most extensive blocks of forested habitat occur within the Mosquito Creek Lake project area and would not be impacted by drilling and development since the project area is a no surface occupancy area. This statement should also have included the State Wildlife Area, which is also a no surface occupancy area. As stated in the comment letter, the total acreage disturbed by drilling and development is low compared to the total acreage of the planning area. And, more specifically, it is likely that only a portion of the disturbed acreage would be in forests. See RESPONSE 3 below for more information on probable well site locations.

RESPONSE 3): Page B-13 of the Reasonably Foreseeable Development Scenario in the Draft PA/EA identifies the assumptions that were used in identifying potential well locations. Possible occupancy sites on private land include existing producing well sites and areas classified by the ODNR as "agricultural", "open space", "natural area" (non-wetland), and "residential". Actual availability depends on whether oil and gas companies obtain surface owner permission. Each development potential area was evaluated for potential surface locations for oil and gas operations by taking into account existing land use patterns, location of existing oil and gas wells, and State spacing



that 420 of the land adjacent to and within one-half mile of the project area is considered a "natural area". Although this term is not clearly defined, it is assumed that "natural areas" are comprised of a number of different types of habitat from meadow to forest.

2) "One of our concerns regarding oil and gas drilling is any project in the potential for habitat fragmentation, particularly involving conversion of forested land to the open areas associated with access roads and well sites."

3) The CDE stated that it would be beneficial if the land use classification map could be tied in with geologic well location mapping that exact locations cannot be determined at this time.

RESPONSE 1: Map 2, page 3-4 of the Draft EA/EA is a composite of data layers from three sources. 1) and 2) land cover data was taken from: 1) the Ohio Cooperative Analysis Program (OCAP) (1977); 2) the Ohio Land Cover Inventory from the OGI (1994); and 3) the CDE's vicinity inventory map (from 4) from the Michigan Great Lakes Master Plan (1994). Data from these three sources were compared and land use classifications were properly grouped into the categories corresponding to those found on the CDE's vicinity inventory map. In general, the areas identified as "natural areas" on Map 2 of the Draft EA/EA include areas identified as wetland, park, water control, shrub and forest, riparian, deciduous forest, herbaceous forest, wetland, wetland, wetland, wetland, shrub, and transitional wetland.

RESPONSE 2: The potential for habitat fragmentation was considered during the scoping process. As stated on page 3-23 of the Draft EA/EA, the largest and most extensive blocks of forested habitat exist within the Michigan Great Lakes project area and would not be impacted by drilling and development since the project area is a no surface occupancy area. This statement should also have included the State Wildlife Area, which is also a no surface occupancy area. As stated in the comment letter, the land usage identified by drilling and development is low compared to the total acreage of the planning area. And, more specifically, it is likely that only a portion of the developed acreage would be impacted. See RESPONSE 5 below for more information on production well site locations.

RESPONSE 3: Page B-13 of the Reasonably Foreseeable Development Scenarios in the Draft EA/EA identifies the assumptions that were used in identifying potential well locations. Possible occupancy sites on private land include existing producing well sites and areas classified by the OGI as "agricultural", "open space", "natural areas" (non-wetland), and "transitional". Actual availability depends on whether oil and gas companies obtain surface owner permission. Each development potential area was evaluated for potential surface locations for oil and gas operations by taking into account existing land use patterns, location of existing oil and gas wells, and state spacing



requirements.

COMMENT #12: Section 4.4, "Summary of Anticipated Impacts", Table 4-15 of the Draft PA/EA. It would be informative to indicate in Alternative B the projected royalties going to the local communities in this section of the chart.

RESPONSE: Please see RESPONSE to COMMENT #8 from COE letter, page 27.

COMMENT #13a: Section 4.5, Monitoring of the Draft PA/EA. Comment questions whether there is any difference in the level of monitoring effort expended with regard to whether the well is draining all Federal minerals or if it is part of a Federal agreement.

RESPONSE: There is no difference in the level of monitoring effort expended with regard to whether the well is draining all Federal minerals or if it is part of a Federal agreement. Please refer to page 11 of the revised Monitoring section.

COMMENT #13b: A more thorough explanation is requested regarding how BLM and ODNR will assure that wells will be plugged properly once they are taken out of production. This explanation should include a discussion of steps that will be taken in plugging a well developed by an operator that subsequently goes bankrupt.

RESPONSE: Federal wells would be plugged according to the standards outlined in BLM Onshore Order No. 2. All formations bearing usable-quality water, oil, gas, and/or prospectively valuable deposits of minerals would be protected. Private wells, which may produce Federal oil and gas through an approved Federal agreement, would be plugged according to standards outlined in Ohio Oil and Gas Law, Chapter 1501 of the Ohio Administrative Code, and Ohio Oil and Gas Rules - Plugging of Wells, 1501:9-11-01 through 1501:9-11-12. Ohio plugging regulations state that upon abandonment, every well must be plugged in a manner that confines oil, gas or water in the reservoir rock in which it occurs or originates. Well owners are required to notify BLM and/or the ODNR Division of Oil and Gas before commencing all plugging operations. Plugging methods are approved or prescribed on a site specific basis, based upon well completion records regarding the depth and fluid-bearing characteristics of the rocks penetrated by the borehole. Generally, rotary drilled wells are plugged by placing cement across all oil, gas or brine bearing zones, as well as fresh water aquifers. Drilling mud is placed in the non-cemented intervals. After completion of the plugging operation, the surface casing is cut off below grade and a plate is welded in place to permanently identify the well. BLM inspectors would witness all plugging operations. In the event the operator of a Federal well goes bankrupt and there







is evidence that the well is causing either surface or downhole contamination, BLM would immediately recover the bond, plug the well, and incur the costs associated with plugging operations. If no immediate threats to public health and safety exist, BLM would initiate actions as described in the first full paragraph on page 4-74 of the Draft PA/EA to acquire funds to have the well plugged and abandoned properly.

COMMENT #14: Appendix A, Oil and Gas Development Constraints and Special Mitigation Measures of the Draft PA/EA. There is inconsistency between the statement in Appendix A which mentions that certain Bazetta Township regulations will be extended to Mecca and Greene Townships and what is specifically written into the body of the Draft PA/EA under the corresponding impacts and mitigation measures.

RESPONSE: Appendix A, Table A-1, page A-9 of the Draft PA/EA, in a general sense, identifies those Bazetta Township regulations which will be extended to Mecca and Greene Townships. These requirements were incorporated into the list of special mitigation measures outlined in Appendix A of the Draft PA/EA. Below, for clarification purposes, we have specifically identified those requirements from Bazetta Township regulations (Section 28: Gas and Oil Well Regulations) which would apply to operations conducted in Mecca and Greene Townships.

For new access roads, operators must notify all occupants within 200 feet of the well site access road that drilling activity would be commencing and provide an approximate time table for it. For an existing road, the operator must notify occupants inside the drilling unit (Bazetta #3.B.ix).

Access road shall be a minimum of 100 feet from the nearest residence building outside the drilling unit and a minimum of 50 feet from the nearest residence building within the drilling unit unless prior written consent of all property owners within the drilling unit has been obtained and submitted to BLM and the township Zoning Inspector, if applicable (Bazetta #3.B.ix).

The tank battery and related production equipment shall be located not less than one hundred and thirty (130) feet from any residence building outside the drilling unit, and not less than one hundred (100) feet from any residence building inside the drilling unit (Bazetta #5).

The well head and tank batteries and related production equipment must be enclosed with a six (6) foot high chain link fence with a locked gate, three (3) strands of barbed wire at the top with a clearance of four (4) feet from the limits of the equipment (Bazetta #5).







Water well testing requirement - Bazetta Township's requirement has been strengthened and rewritten. Specific requirement can be found on page A-13 of the Draft PA/EA (Bazetta #6A).

Each access road to the drill site or tank battery shall have a fence with a locked gate or cable limiting passage to applicant's personnel, landowner, Zoning Inspector (if applicable), Fire Department, and appropriate State/Federal inspectors (Bazetta #7B).

Each tank battery shall be placed on five (5) inch bed of limestone and/or natural stone (Bazetta #7C).

All tank battery sites, fence, and surface equipment shall be made of non-corrosive material or painted with a weatherproof paint. These components shall be maintained throughout the life of the well (Bazetta #7D).

All access roads must be properly graded and surfaced with gravel or paving material to prevent mud from getting to State, county, and township roads, and to minimize dust from forming during use of the access road, and if reasonably required by Fire Chief, be of sufficient width with turnarounds to allow ingress and egress for safety equipment (Bazetta #7E).

BLM would not allow any producing well located adjacent to COE or ODNR developed recreation areas to emit noise which, when measured at the nearest developed recreation area, exceeds 45 dB(A) (Bazetta #8.1).

Tank battery facilities would be evaluated on a case-by-case basis. If necessary, vent stacks on oil storage tanks would be fitted with activated charcoal filters. Such filters shall be cleaned or replaced as needed to adequately suppress odor (Bazetta #8.2).

Vibrations which are perceptible without the aid of an instrument shall not be permitted beyond the drilling unit (Bazetta #8.3).

COMMENT #15: Appendix B, Reasonably Foreseeable Development Scenario of the Draft PA/EA. Summary 1- RFDS Under Alternative A. Need to clarify the fact that BLM can attach protection measures to the Federal agreement (CRA) or refer reader to Section 2.1 of Draft PA/EA.

RESPONSE: Comment noted. This has been clarified through the section titled "Approval of Federal Agreements/Drilling Permits" on page 9.

COMMENT #16: "The draft PA/EA avoids the issue of containment, and disposal of saline cuttings is only addressed with a few comments like: "In addition, BLM would



When well testing requirements - Bureau Township's requirements are from  
revised and revised. Specific requirements can be found on page A. 13  
of the Draft PAEA (Bureau 5-4)

Each access road to the drill site or test battery shall have a fence with a  
locked gate or cable locking device to restrict personnel, livestock,  
driving equipment (if applicable), fire equipment, and appropriate safety equipment  
(Bureau 5-18)

Each test battery shall be placed on the (2) inch bed of limestone rubble  
sewer stone (Bureau 5-19)

All test battery structures, fences, and surface equipment shall be made of non-  
corrosive material or painted with a weatherproof paint. These requirements  
shall be maintained throughout the life of the well (Bureau 5-20)

All access roads must be properly graded and surfaced with gravel or paving  
material to prevent mud from getting to State, county, and township roads, and  
to maintain them from becoming bumpy due to the access road, and it is necessary  
to require the City to be of sufficient width with no shoulders to allow proper  
and proper for safety equipment (Bureau 5-21)

BLM would not allow any geophysical well located adjacent to COE or ODNH  
developed resources area to be used which was located at the nearest  
developed resources area (Bureau 5-22)

Test battery facilities would be evaluated on a case-by-case basis. If  
necessary, test roads on the storage tanks would be filled with activated  
carbon filter. Each filter shall be checked or replaced as needed to  
adequately remove odor (Bureau 5-23)

Locations which are geophysical without the aid of an instrument shall not be  
permitted beyond the drilling well (Bureau 5-24)

COMMENT 21: Appendix 3, Township's Responsible Development Standards in the  
Draft PAEA Summary 1- RFD's Under Alternative A. Need to clarify the fact that  
BLM can also provide measures to the Federal government (COA) or other federal  
in Section 2.1 of Draft PAEA

RESPONSE: Comment noted. This has been changed through the section titled  
"Agreement to Federal Agency/Drilling Permit" on page 3.

COMMENT 21: The draft PAEA avoids the issue of containment, and instead of  
active change is only addressed with a few comments here. In addition, BLM would



require segregation of all saline cuttings, if warranted." (Page 4-33, para 5), and "The fate of pit cuttings and liner would remain a negotiable item to be addressed at the time specific proposals are received . . ." (Page 4-33, para 6). This discussion avoids any mention that the primary drilling target at Mosquito Creek is the Clinton Sandstone, and to reach this formation requires drilling through the saline formation of about 750 feet of halite. The containment issue is not acknowledged in the draft PA/EA; one only knows that it is a negotiable item. Similarly, the saline group is not mentioned in the discussion of geology and stratigraphy."

RESPONSE: The Draft PA/EA does address the Clinton sandstone as the primary drilling target. Page B-1, Appendix B of the Draft PA/EA describes the Clinton sandstone as one of two most likely drilling targets. The Draft PA/EA states that the second drilling target, the Rose Run Sandstone, has low oil and gas development potential over the entire planning area. Map 4, page 2-6 of the Draft PA/EA shows high, moderate and low development potential areas for the Clinton sandstone. The Draft PA/EA states the Clinton sandstone is the only economically producible zone in the planning area (Section 2.6 and Appendix B of the Draft PA/EA). Typical oil and gas operations described in Appendix B are for Clinton well drilling, with any difference for Rose Run drilling so noted. The Reasonably Foreseeable Development Scenario (RFDS) estimates 13 to 40 Clinton wells, depending on the alternative, and only one Rose Run well under either alternative.

Presumably the "saline formation of about 750 feet of halite" referred to in the comment is the Salina Group, which contains beds of halite, more commonly known as "rock" or "common" salt (NaCl-sodium chloride). The Salina Group underlies most of Ohio, but halite beds are restricted to the eastern one-third of the State (Tomastik, 1997). The Salina Group consists of interbedded dolomite (calcium/magnesium carbonates), anhydrite (calcium sulfate), halite (sodium chloride), and shale. In the Mosquito Creek Lake project area, the cumulative thickness of halite ranges from 222 to 271 feet (Tomastik, 1998).

The Draft PA/EA does not specifically mention drilling through the Salina Group. However, Figure 11, page C-24, Appendix C of the Draft PA/EA displays the typical geologic formations encountered in drilling to the Clinton sandstone, including the Salina Group, and Section 4.2.4 Water Resources, page 4-33 of the Draft PA/EA states that the drilling pits would be used to contain "brine, cuttings (including halite, or "rock salt"), and drilling fluids".

Halite cuttings are one of several sources of salinity in pit waste. Pit waste can include cuttings of rock that contains formation water (water in the rock's pore spaces) ranging from fresh to brine (highly saline formation water), free liquids (formation water, rainwater, drilling fluids), halite cuttings, cuttings of non-porous rock, and cementing materials (from cementing of casing in the well



regarding segregation of all debris cuttings. It was stated: "Page 4-33, para 5, and 'The five of the cuttings and their weight would remain a negotiable item to be addressed at the time specific proposals are received...' " (Page 4-33, para 6). This discussion reveals my intention that the primary drilling target at Stanton Creek is the Clinton sandstone, and to reach this formation requires drilling through the saline formation of about 750 feet of halite. The minimum lease is not acknowledged in the draft PAVEA; one only knows that it is a negotiable item. Similarly, the saline group is not mentioned in the discussion of geology and stratigraphy."

RESPONSE: The Draft PAVEA does address the Clinton sandstone as the primary drilling target. Page B-1, Appendix B of the Draft PAVEA describes the Clinton sandstone as one of two near likely drilling targets. The Draft PAVEA states that the second drilling target, the Rose Run Sandstone, has low oil and gas development potential over the entire planning area. Map 4, page 2-6 of the Draft PAVEA shows that, moderate and low development potential exist for the Clinton sandstone. The Draft PAVEA states the Clinton sandstone is the only economically producible zone in the planning area (Section 2.6 and Appendix B of the Draft PAVEA). Typical oil and gas operations described in Appendix B are for Clinton well drilling, with any difference for Rose Run drilling as noted. The Reasonably Foreseeable Development Scenario (RFD2) estimates 13 to 40 Clinton wells, depending on the alternative, and only one Rose Run well under either alternative.

Presumably the "saline formation of about 750 feet of halite" referred to in the comment is the Saline Group, which contains beds of halite, more commonly known as "rock" or "rock salt" (NaCl-sodium chloride). The Saline Group includes most of Clinton but halite beds are restricted to the eastern one-third of the State (Tomasko, 1997). The Saline Group consists of interbedded dolomite (calcium/magnesium carbonate), anhydrite (calcium sulfate), halite (sodium chloride), and shale. In the Montpelier Creek Lake project area, the cumulative thickness of halite ranges from 225 to 271 feet (Tomasko, 1998).

The Draft PAVEA does not specifically mention drilling through the Saline Group. However, Figure 11, page C-24, Appendix C of the Draft PAVEA displays the typical geologic strata encountered in drilling to the Clinton sandstone, including the Saline Group, and Section 4.3.4 Water Resources, page 4-33 of the Draft PAVEA states that the drilling rate would be used to contain "brine, cuttings (including halite, or 'rock salt'), and drilling fluids."

Halite cuttings are one of several sources of salinity in pit water. Pit water can include cuttings of rock that contains formation water (water in the rock's pore spaces) ranging from fresh to brine (highly saline formation water). Two liquids (formation water, rainwater, drilling fluids), halite cuttings, cuttings of non-porous rock, and cementing materials (from cementing of casing in the well



bore).

In general, formation water ranges from fresh in shallow aquifers to brine in deep water-bearing rock formations. In the Mosquito Creek Lake project area, fresh formation water occurs in aquifers such as the Berea and Cussewago sandstones. With increasing depth, formation water becomes increasingly mineralized and brackish and finally transitions to brine. Brackish water, which contains relatively low concentrations of salt, is saltier than fresh water but not as salty as brine. Brine contains a large quantity of dissolved salt, especially sodium chloride. Brine-bearing rock begins at the top of the "Big Lime" (see Figure 11, Page C-24 of the Draft PA/EA), which is at depths of 2,600 to 2,800 feet in the vicinity of Mosquito Creek Lake. All water-bearing rock formations from the top of the Big Lime to the base of a typical Clinton well at 4,200 to 4,300 feet would contain brine.

Typical air rotary operations can generate 1,000 to 1,500 barrels of brine per well (ODNR, 1989). At the chloride concentrations typical of northeastern Ohio brines, one barrel of brine could contain 90 to 104 pounds of soluble salt (ODNR, 1989). Addition of halite cuttings to a drilling pit can significantly increase the quantity of salt in the pit. A 10-inch diameter borehole drilled through the Salina Group could produce 737 pounds of salt per 10-foot section (ODNR, 1989). Fresh to brackish formation water and cuttings from shallower formations help dilute the salinity of brines and cuttings from deeper formations. At the end of drilling operations free liquid in the pit is removed and disposed in Class II disposal wells per State requirements. The remaining cuttings are normally buried in place when the pit is closed.

The Draft PA/EA does not avoid the "containment" issue. Draft PA/EA Sections 4.2.4, Water Resources and 4.2.3, Soils and Prime Farmlands discuss impacts to soil, vegetation, and water quality caused by liquid overflowing or leaking from drilling (reserve) pits. The goal for all drilling pits is to minimize or eliminate the likelihood of pit overflow and pit leachate and subsequent effects of leachate and overflow on soils, vegetation and surface and groundwater quality. The primary concern regarding pits containing saline cuttings is the likelihood of more intense short- and long-term effects of pit leachate or overflow on soils, vegetation and water quality.

The Draft PA/EA develops mitigation measures to minimize or eliminate the likelihood of both pit overflow and pit leachate. Measures address pit design and construction to ensure the adequacy and integrity of the pit liner(s), restricting what wastes may be deposited in pits, management and disposal of pit liquids during and after drilling, and pit closure methods. Mitigation measures required for pits at all sites are discussed in Sections 4.2.4, Water Resources and 4.2.3, Soils and Prime Farmlands, and outlined on Table 4-1 and







Appendix A of the Draft PA/EA. Measures to be considered case-by-case depending on site conditions include the fate of the pit cuttings and liner, segregation and removal of saline cuttings, solidification of cuttings, and use of steel tanks instead of excavated earthen pits.

Currently, the only ODNr Division of Oil and Gas approved methods for pit cuttings disposal are either burial in the drilling pit or removal to a landfill. On a case-by-case basis, the Division of Oil and Gas will consider disposal of cuttings in a pit at another drilling site or in an appropriately designed pit constructed at an oil and gas production site. The ODNr Division of Oil and Gas has recently been involved in studies regarding the effects of land spreading of saline pit wastes and pit waste/soil mixtures. These studies may lead to alternatives to current disposal methods.

Segregation of saline cuttings is usually achieved in the following manner. Rock cuttings created by drilling from the earth's surface to the top of the Big Lime are discharged into one pit. At the top of the Big Lime, the discharge line is re-positioned to a second pit. Rock cuttings created by drilling from the top of the Big Lime to the bottom of the well bore are discharged into the second pit. Closure of the pit containing cuttings from the upper well bore involves encapsulating the pit waste in the pit liner (waste may or may not be solidified), backfilling with stockpiled soils, spreading of topsoil, seeding, fertilizing and mulching. Saline waste from the second pit is solidified and transported to either a landfill or to an appropriately designed pit at another oil and gas well site (per approval of both the landowner at that location, the ODNr Division of Oil and Gas, and, for Federal wells, the BLM). The second pit is then closed in the same way as the first pit.

Two primary reasons for requiring segregation and removal of saline cuttings are:

- a. The land owner does not want saline cuttings buried on his property; and
- b. An extra measure of protection may be warranted for environmentally sensitive situations.

For reason b., BLM would evaluate, case-by-case, a combination of factors including, but not limited to:

- how close the drilling pit is to a water well or water body;
- is the drilling pit in an area identified by USGS as a sensitive aquifer outcrop/recharge area (west side of lake and Walnut Creek area);
- is the pit in an area of thin glacial till over permeable bedrock (other than areas identified by USGS);
- is the pit excavated through permeable sand/gravel layers,
- the distance between the base of the pit and the top of the seasonal



Appendix A of the Draft F.A.B.A. Manual is to be completed case-by-case depending on site conditions include the type of pit contents and how segregation and removal of saline content, stabilization of content, and use of other waste treatment or treatment methods.

Currently, the only OGR Division of Oil and Gas approved methods for pit content disposal are either burial in the drilling pit or removal to a landfill. On a case-by-case basis, the Division of Oil and Gas will consider disposal of content in a pit or another drilling site or in an appropriately designed pit constructed at an oil and gas production site. The OGR Division of Oil and Gas has recently been involved in studies regarding the effects of land application of saline pit water and oil-watered mixtures. These studies may lead to alternatives to current disposal methods.

Segregation of saline content is usually achieved in the following manner. Rock cuttings created by drilling from the earth's surface to the top of the Big Line are discharged from one pit. At the top of the Big Line, the discharge line is re-routed to a second pit. Rock cuttings created by drilling from the top of the Big Line to the bottom of the well bore are discharged into the second pit. Content of the pit containing content from the upper well bore is removed, including the pit water in the pit (waste may or may not be solidified, including with modified soil, spreading of topsoil, seeding, fertilizing and mulching). Saline waste from the second pit is solidified and transported to either a landfill or to an appropriately designed pit at another oil and gas well site (per approval of both the landowner at the location, the OGR Division of Oil and Gas, and the Federal wells, the BLM). The second pit is then closed in the same way as the first pit.

7. General reasons for refusing segregation and removal of saline contents are:
- a. The land owner does not want saline contents buried on his property; and
  - b. An extra measure of protection may be warranted for environmentally sensitive situations.

- For reasons b, BLM would evaluate, case-by-case, a combination of factors including, but not limited to:
- how close the drilling pit is to a water well or water body;
  - is the drilling pit in an area identified by USGS as a sensitive aquifer (hydrogeographic area (west side of Lake and Walnut Creek area));
  - is the pit in an area of this glacial till over permeable bedrock (other than areas identified by USGS);
  - is the pit excavated through permeable sand/gravel layers;
  - the distance between the base of the pit and the top of the seasonal



high water table; and/or,  
- are there alternative pit closure methods, such as the use of  
solidification/stabilization agents.

**BAZETTA TOWNSHIP FIRE DEPARTMENT, CHIEF ROBERT L. LEWIS, ASSISTANT  
CHIEF DONALD WALDRON - July 16, 1998**

COMMENT: Comment regarding statement on page 4-73 of Draft PA/EA on emergency response capability. "We can not speak for other fire departments, we feel we must speak out on the above statement so that a false sense of security is not given."

RESPONSE: Please see RESPONSE to COMMENT letter from Cortland City Fire Department, page 14.

## **SUMMARY OF COMMENTS MADE AT PUBLIC MEETINGS**

BLM held two public meetings in Trumbull County in May 1998 to gather information on the Draft PA/EA. Together, these meetings attracted approximately 70 people, of which 20 gave oral testimony. In general, the comments dealt with the potential impacts of oil and gas leasing on surface and groundwater quality, especially as it relates to drinking water, impacts to fish and wildlife, and economics. Some comments referred to local emergency response capability and public health and safety issues.

Transcripts of the public meetings held in Warren and Cortland, Ohio have been reviewed and substantive comments have been extracted. Those comments and responses follow. The page numbers following the COMMENT refer back to the actual transcripts which can be viewed at the local libraries listed in the Introduction.

### **RESPONSES TO COMMENTS FROM WARREN TRANSCRIPT**

COMMENT, page 38: Mr. Vogel - Questioned whether BLM personnel stated that "site specific environmental concerns were up to private surface owners and would not be part of a planning process if no surface occupancy was to be the plan adopted."

RESPONSE: As outlined on pages 1-9 and 1-10 of the Draft PA/EA, BLM does not have the authority to regulate how private surface is managed by the surface owner. However, for wells which produce Federal oil and gas through either a Federal drilling permit or Federal agreement, BLM does have the authority to require measures to avoid or minimize adverse impacts that may result from federally authorized activities. If the surface owner does not agree with these measures, BLM can ultimately deny a drilling permit or deny approval of a Federal agreement. If leasing occurs and wells are proposed, a



high water table...  
- the same alternative...  
...the use of...

BARBARA TOWNSEND, FIRE DEPARTMENT, CHIEF...  
CHIEF DONALD W. ALLEN, July 10, 1998

COMMENT: Comment regarding...  
...we can not speak for other fire departments, we feel...  
...we must speak out on the above statement so that a false sense of security is not...

RESPONSE: Please see RESPONSE to COMMENT letter from Corland City  
Fire Department, page 14.

### SUMMARY OF COMMENTS MADE AT PUBLIC MEETINGS

BLM held two public meetings in Township County in May 1998 to gather  
information on the Draft PAEA. Together, these meetings attracted approximately 70  
people, of which 25 gave oral testimony. In general, the comments dealt with the  
potential impacts of oil and gas leasing on surface and groundwater quality, especially  
as it relates to drinking water, impacts to fish and wildlife, and economics. Some  
comments related to local emergency response capability and public health and safety  
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actual transcripts which can be viewed at the locations listed in the Introduction.

### RESPONSES TO COMMENTS FROM WARREN TOWNSHIP

COMMENT, page 36: Mr. Vogel - Questioned whether BLM personnel stated that  
"the specific environmental concerns were up to private surface owners and would not  
be part of a planning process if no surface occupancy was to be the plan adopted."

RESPONSE: As outlined on pages 1-9 and 1-10 of the Draft PAEA, BLM  
does not have the authority to regulate how private surface is managed by the  
surface owner. However, the wells which produce Federal oil and gas through  
either a Federal drilling permit or Federal agreement, BLM does have the  
authority to require measures to avoid or minimize adverse impacts that may  
result from Federally authorized activities. If the surface owner does not agree  
with these measures, BLM can ultimately deny a drilling permit or deny  
approval of a Federal agreement. If leasing occurs and wells are proposed,



site specific environmental analysis incorporating additional mitigation measures, as appropriate, would be done at that time.

COMMENT, page 44: Mr. Vogel - Stated that "you [BLM] are in violation of mandates set by the Corps of Engineers in their management plan that says there is no allowance for an exclusive use of Corps of Engineer resources at that lake. You are setting up exclusive use."

RESPONSE: The Mosquito Creek Lake Lakeshore Management Plan, April 1987, defines "private exclusive use" as "the use of public lands or waters by a private citizen or organization such that any benefit to be derived therefrom is in the predominant interest of that individual or organization." As a result of the "no surface occupancy" restriction imposed by the Corps of Engineers, use of the Federal lands for well sites and other permanent above ground facilities will not be permitted. This is true for both alternatives being considered. Therefore, the private exclusive use criterion does not apply. However, development of the Federal minerals would provide benefits beyond those that may accrue to the drillers/operators themselves. Revenues would be generated and distributed to the Federal treasury, as well as state and local governmental entities.

COMMENT, page 46: Ms. Long - Comment referencing pages 34-35 of Draft PA/EA wherein Tables 3-9 and 3-10 do not include data concerning the City of Cortland. Also, the existence of retail trade in Greene Township is disputed.

RESPONSE: U.S. Census data were selected to describe the affected environment in the three townships of the Mosquito Creek Lake planning area, the County, and the State. Township level social and economic data were used to define the smallest area or local environment. The same socioeconomic indicators for Trumbull County and the State were used for comparison. Comparable data are available for these three levels of political jurisdiction, but not all of the same indicators are available for cities. The U.S. Census data were prepared by the Office of Strategic Research, Ohio Department of Development at the request of BLM.

Retail trade includes small commercial establishments like auto service and repair garages, and lawn and garden stores. Even though large retail establishments like Wal-Mart are not located in Greene Township, these two smaller enterprises are located there.

COMMENT, page 50: Mr. Holloway - States that the monitoring section is very general in its description. "There's no specifics on how often someone will be out there to monitor the situation, who those people will be, where they will be coming from, what their contact phone number is, things of that nature. . .".







RESPONSE: See page 11 for a revised Monitoring section.

COMMENT, pages 50-51: Mr. Holloway - a) Concern that Cortland, Warren and Bazetta Township were not also included in the Spill Prevention, Control and Countermeasure (SPCC) Plan distribution, and b) concern that SPCC Plans should contain contacts/numbers from Cortland, Warren and Bazetta Township.

RESPONSE:

a) BLM did not intend to exclude local government agencies from receiving copies of the SPCC Plans. The Draft PA/EA merely stated the current BLM standard Condition of Approval for how copies of SPCC Plans for oil and gas production facilities at COE reservoir projects are distributed. BLM would forward copies of SPCC Plans to Cortland, Warren, and Bazetta Township as the Plans are received.

b) The Ohio EPA (OEPA) administers the SPCC Plan program and specifies the content of the Plans. In the contingency or "Action Plan" portion of the SPCC Plan, operators usually list, at a minimum, numbers for the U.S. EPA, the OEPA, the U.S. Coast Guard, and the local fire department. At the time SPCC Plans are developed for individual oil and gas production facilities, BLM can strongly encourage operators to include names and phone numbers of contact personnel in Cortland, Warren and Bazetta Township.

COMMENT, page 51: Mr. Holloway - Concern that the bodily injury and property damage liability insurance of \$300,000 seems insufficient.

RESPONSE: As indicated on Table D-2, page D-7 of the Draft PA/EA, the ODNR, Division of Oil and Gas requires a minimum of \$300,000 bodily injury and \$300,000 property damage for a total of \$600,000 liability coverage. Because this is a State requirement, BLM can not require the liability coverage to be increased.

COMMENT, page 51: Mr. Holloway - Concern as to what an "Oil Spill Emergency Response Plan (OSERP)" is and what it requires (referred to on page E-2 of Draft PA/EA, not page 82 as indicated in the transcripts).

RESPONSE: Guidelines for preparation of Spill Prevention, Control and Countermeasure (SPCC) Plans are outlined in Title 40, Code of Federal Regulations, Part 112 (40 CFR 112) - Oil Pollution Prevention. Because diking of flowlines associated with wells and tank batteries is not practical, SPCC guidelines require that oil and gas extraction facility SPCC Plans include a strong "oil spill contingency plan". The term "oil spill contingency plan" (also referred to as an Action Plan) would have been more appropriate than the term "Oil Spill Emergency Response Plan (OSERP)" which was used on page E-2



RESPONSE: See page 11 for a revised Monitoring section.

COMMENT, pages 20-21: Mr. Holloway - a) Contingency Plan Control and Response Plan (CPRP) was also included in the Spill Prevention Control and Response Plan (SPCRP) Plan document, and b) Contingency Plan Control and Response Plan (CPRP) was also included in the Spill Prevention Control and Response Plan (SPCRP) Plan document.

RESPONSE:

a) BLM did not intend to include local government agencies from reviewing copies of the SPCR Plan. The BLM PABA merely stated the current BLM review of the SPCR Plan for approval for new copies of SPCR Plans for oil and gas production facilities at OCS review projects are identified. BLM would forward copies of SPCR Plans to Coastal, Western, and Eastern Township as the Plans are reviewed.

b) The EPA (OIR) administers the SPCR Plan program and specifies the content of the Plan. In the contingency or "Action Plan" portion of the SPCR Plan, operators usually list, at a minimum, numbers for the U.S. EPA, the OIR, the U.S. Coast Guard, and the local fire department. At the time SPCR Plans are developed for individual oil and gas production facilities, BLM also strongly encourages operators to include agency and phone numbers of contact personnel in Coastal, Western and Eastern Township.

COMMENT, page 21: Mr. Holloway - Concerns the the budget items and property damage liability insurance of \$200,000 versus \$500,000.

RESPONSE: As indicated on Table P-1, page P-7 of the PABA, the OIR, Division of Oil and Gas requires a minimum of \$200,000 bodily injury and \$200,000 property damage for a total of \$400,000 liability coverage. However, this is a state requirement. BLM can not require the liability coverage to be increased.

COMMENT, page 21: Mr. Holloway - Concerns as to what an "Oil Spill Emergency Response Plan (OSERP)" is and what it requires (referred to on page P-2 of Draft PABA, and page 82 as included in the response).

RESPONSE: Guidelines for preparation of Spill Prevention Control and Response Plan (SPCRP) Plans are outlined in Title 40, Code of Federal Regulations, Part 112 (40 CFR 112) - (2) Pollution Prevention. Because drilling of locations associated with wells and other activities is not practical, SPCR guidelines require that oil and gas production facilities SPCR Plans include a strong "oil spill emergency plan". The term "oil spill emergency plan" (also referred to as an Action Plan) would have been more appropriate than the term "Oil Spill Emergency Response Plan (OSERP)" which was used on page P-2.



of the Draft PA/EA. An "oil spill contingency plan" includes the following information:

- 1) Action Center: the location or center that issues direction for the cleanup and containment operations - provides the name, address and phone number of the party responsible for clean-up and containment operations, i.e., the oil and gas operator;
- 2) Communications: names/phone numbers of Federal, State offices, and local fire departments to be notified of a spill;
- 3) Immediate Work Force: names/phone numbers of the operator's personnel immediately available on a 24-hour basis; operator's equipment immediately available on a 24-hour basis; names/phone numbers of personnel and equipment that a sub-contractor can make immediately available on a 24-hour basis;
- 3) Stand-by Work Force: names/phone numbers for additional or stand-by personnel and equipment; and
- 4) Clean-up Materials: availability of materials that may be needed in clean-up operations, including the suppliers and phone numbers.

COMMENT, page 51: Mr. Holloway - Who assures that oil and gas drilling crews receive proper training in receiving, storage, handling, and disposal of hazardous and non-hazardous materials? Does BLM require certification of proper training?

RESPONSE: BLM does not require oil and gas operators to provide proof of training in receiving, storage, handling, and disposal of hazardous and non-hazardous materials. This type of training is required by the Occupational Health and Safety Administration's (OSHA) 1989 Hazard Communication Standard (HAZCOMM) and 1990 Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) programs.

HAZCOMM requires employers to develop a system to keep employees informed of, and trained to handle, chemical hazards in the work place. Under HAZCOMM, all manufacturers and employers must:

- prepare a written hazard communication program;
- prepare a list of all hazardous materials in the workplace;
- label all containers of hazardous materials in the workplace;
- collect and maintain a Material Safety Data Sheet for each hazardous material present in the workplace; and
- provide employee training on specific topics related to hazardous substances.

HAZWOPER requires employers to protect the health of personnel involved in: 1) emergency response or clean-up at hazardous waste sites; 2) emergency response at treatment, storage and disposal facilities; and 3) emergency response to incidents involving hazardous substances. An emergency response



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- 1) Action Center: the location or center that issues direction for the cleanup and containment operations - provide the name, address and phone number of the party responsible for clean-up and containment operations, i.e. the oil and gas operator.
- 2) Communication: telephone numbers of Federal, State, and local fire departments to be notified of a spill.
- 3) Immediate Work Force: telephone numbers of the operator's personnel immediately available on a 24-hour basis; operator's equipment immediately available on a 24-hour basis; telephone numbers of personnel and equipment that a sub-contractor can make immediately available on a 24-hour basis.
- 4) Stand-by Work Force: telephone numbers for additional or stand-by personnel and equipment.
- 5) Clean-up Materials: availability of materials that may be needed in clean-up operations, including the supplier and phone number.

COMMENT, page 21: Mr. Holloway - What assurance that oil and gas drilling crews receive proper training in receiving, storage, handling, and disposal of hazardous and non-hazardous materials? Does BLM require certification of proper training?

RESPONSE: BLM does not require oil and gas operators to provide proof of training in receiving, storage, handling, and disposal of hazardous and non-hazardous materials. This type of training is required by the Occupational Health and Safety Administration's (OSHA) 1989 Hazard Communication Standard (HAZCOMH) and 1990 Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) program.

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- provide employee training on specific topics related to hazardous substances.

HAZWOPER requires employers to protect the health of personnel involved in:

- 1) emergency response or clean-up at hazardous waste sites; 2) emergency response at treatment, storage and disposal facilities; and 3) emergency response to incidents involving hazardous substances. An emergency response



is defined as an uncontrolled release of a hazardous substance that requires action by employees or other responders from outside the immediate release area. An emergency response includes a release that poses a potential safety or health hazard and the release cannot be controlled by employees in the immediate area or by maintenance personnel.

HAZWOPER places several requirements on employers of workers who engage in emergency response activities. The employer must:

- develop a written emergency response plan that addresses emergency planning, personnel roles, evacuation routes, decontamination, and use of emergency equipment;
- train emergency response employees to a level determined by their functions and responsibilities and must provide an annual refresher training;
- appoint a senior emergency response official to identify, coordinate and implement emergency operations and assure that personnel wear proper protective equipment; and
- brief any temporary personnel involved in emergency support on any chemical hazards and proper use of protective equipment.

In addition to HAZCOMM and HAZWOPER requirements, SPCC Plan regulations call for instruction of personnel in operation and maintenance of equipment to prevent discharges of oil and applicable pollution control laws, rules and regulations; designation of a person accountable for oil spill prevention; and spill prevention briefings for operating personnel.

COMMENT, page 52: Mr. Holloway - Some of the VOCs should be monitored in water well testing.

RESPONSE: Please refer to RESPONSE to COMMENT letter from Thomas F. Holloway, page 17.

COMMENT, page 60-61: Mr. Vogel - Concern was raised regarding the use of a 1978 report to identify threatened and endangered species. Question was raised as to whether field surveys were completed for threatened or endangered plant species.

RESPONSE: Please refer to RESPONSE to COMMENT letter from Kathy Machingo, pages 19-20.

BLM did not conduct surveys or document observations. The determination of whether or not the special status species occur, or may occur, was based upon documented site observations provided by ODNR and USFWS. Population surveys are only conducted for nesting and wintering bald eagles within the Wildlife Area. Both ODNR and COE conduct mid winter surveys for bald



is defined as an uncontrolled release of a hazardous substance that requires action by employees or other personnel from outside the immediate release area. An emergency response includes a release that poses a potential safety or health hazard and the release cannot be controlled by employees in the immediate area or by maintenance personnel.

HAZWOPER refers to the requirements on employers of workers who engage in emergency response activities. The employer must:

- develop a written emergency response plan that addresses emergency planning, personnel roles, evacuation routes, decontamination, and use of emergency equipment;
- train emergency response employees to a level determined by their functions and responsibilities and must provide an annual refresher training;
- appoint a senior emergency response official to identify, coordinate and implement emergency operations and ensure that personnel wear proper protective equipment; and
- train and certify personnel involved in emergency support on any chemical hazards and proper use of protective equipment.

In addition to HAZWOPER and HAZWOPER requirements, 29 CFR 1910.120 requires that for instruction of personnel in operation and maintenance of equipment to prevent discharges of oil and applicable pollution control laws, rules and regulations; designation of a person accountable for oil spill prevention, and spill prevention activities for operating personnel.

COMMENT, page 25: Mr. Holloway - Some of the VOCs should be monitored in water well testing.

RESPONSE: Please refer to RESPONSE to COMMENT letter from Thomas F. Holloway, page 17.

COMMENT, page 60-61: Mr. Vogel - Concern was raised regarding the use of a 1978 report to identify threatened and endangered species. Question was raised as to whether field surveys were completed for threatened or endangered plant species.

RESPONSE: Please refer to RESPONSE to COMMENT letter from Kathy Manning, page 19-20.

BLM did not conduct surveys or document observations. The determination of whether or not the special status species occur, or may occur, was based upon documented site observations provided by ODNK and USFWS. Evaluation surveys are only conducted for nesting and wintering bird species within the Wildlife Area. Both ODNK and COE conduct field winter surveys for bald



eagles on a yearly basis. Bald eagles are also counted during biweekly waterfowl surveys flown by ODNR from the beginning of September into January. ODNR begins monitoring established nest sites one month prior to the start of the nesting season. Active nests are then monitored on a weekly basis throughout the nesting season (Grah, 1998).

The Wildlife Area provides habitat for the majority of the special status species. The no surface occupancy restriction will protect any habitat or species found in this area. Occurrences of special status plant and animal species also have been documented west of the upper two thirds of the planning area and south of the southern tip of the planning area. The massasauga has been documented on non-federal land located outside of the Wildlife Area. Site specific inspections prior to surface disturbance would verify the presence or absence of special status species or habitat. Mitigation measures would be identified based on site specific analysis. Also, please refer to RESPONSE to COMMENT in letter from ODNR, pages 21-22.

COMMENT, page 66: Mr. Vogel - The recent fish kill was not addressed in the document.

RESPONSE: See RESPONSE to COMMENT from Mr. Vogel (page 69, Warren transcript), below. In addition, the fish kill was not addressed in the Draft PA/EA because BLM had no information on the cause of the fish kill or other details of the incident. At the time the Draft PA/EA was being prepared, it was understood that an investigation was being conducted in an attempt to determine the cause of the kill although no data were available. Communication with a COE fisheries biologist on July 17, 1998 revealed that nothing definitive was identified following the analyses of water and algae samples collected from Mosquito Creek Lake (Hoskins, 1998). In an e-mail message to the Mosquito Creek Lake Project office dated June 4, 1998, Robert Hoskins stated that water samples collected in August 1997 showed elevated levels of one type of blue-green algae (*Schizothrix calcicola*) (17,000 cells per milliliter). Although this level is considered low to normal for Mosquito Creek Lake, levels like this could pose problems at other lakes. This algae produces endotoxins that can kill fish. It should be noted that samples were taken after the fact and concentrations could have been higher during the peak kill, especially since the lake water just turned over due to high winds and cool air temperatures. During lake water turnover, nutrients released into the deep anoxic waters of the lake become available to algae. A super bloom could have occurred, however this is not definitive. If it was an endotoxin problem, Mr. Hoskins questioned why the kill was restricted primarily to one size group of channel catfish.

COMMENT, page 69: Mr. Vogel - "... relative certainty that increased turbidity of



carries on a yearly basis. Field notes are also maintained during inventory  
activities and are filed by (GWR) from the beginning of September until  
January. GWR's policy regarding collection and use of data is to  
the state of the existing system. A few more are then monitored on a weekly  
basis throughout the winter season (GWR, 1997).

The Wildlife Area provides habitat for the majority of the special status  
species. The no surface occupancy restriction will protect any habitat or  
species found in this area. Conservation of special status plant and animal  
species also have been demonstrated west of the upper two thirds of the  
planning area and north of the southern tip of the planning area. The  
management has been demonstrated on non-federal land located outside of the  
Wildlife Area. The specific management plan to protect resources would  
verify the presence or absence of special status species or habitat. Mitigation  
measures would be identified based on the specific analysis. Also, please refer  
to RESPONSE to COMMENT in letter from GWR, pages 21-22.

COMMENT, page 18: Mr. Vogel - The recent fish kill was not addressed in the  
document.

RESPONSE: See RESPONSE to COMMENT from Mr. Vogel (page 6).  
Further investigation below. In addition, the fish kill was not addressed in the  
Draft EIS because BLM had no information on the cause of the fish kill or  
other details of the incident. At the time the Draft EIS was being prepared,  
it was understood that an investigation was being conducted in an attempt to  
determine the cause of the fish kill although no data were available.  
Communication with a COE fisheries biologist on July 17, 1998 revealed that  
nothing definitive was identified following the analysis of water and algae  
samples collected from Mesquero Creek Lake (Hobbs, 1998). In an e-mail  
message to the Mesquero Creek Lake Project office dated June 4, 1998, Robert  
Hobbs stated that water samples collected in August 1997 showed elevated  
levels of one type of blue-green algae (Scenedesmus alascensis) (17,000 cells per  
milliliter). Although this level is considered low to normal for Mesquero Creek  
Lake, levels like this could pose problems at other lakes. This algae produces  
toxins that can kill fish. It should be noted that samples were taken after  
the last and most significant cold front passed over the peak of the  
especially since the lake water just turned over due to high winds and cool air  
temperatures. During late winter turnover, nutrients released into the deep  
anoxic waters of the lake become available to algae. A water bloom could  
have occurred, however this is not definitive. It was an ecological problem,  
Mr. Hobbs questioned why the fish was restricted primarily to one size group  
of channel catfish.

COMMENT, page 18: Mr. Vogel - "... relative to the increased turbidity of



the water will spawn oxygen-depleting algae that could cause additional fish kills. And now, is it my mistake, or is it that the blue book [Draft PA/EA] glances over that possibility? Certainly, you've chosen a formula that has diminished the erosion impact from the Youngstown State report that you folks held as the sacred grail last fall and last winter."

RESPONSE: Mitigation measures developed during the analysis process would lessen the amount of erosion and subsequent sedimentation. The measures were specifically developed to prohibit sediments from traveling off the construction sites. Specialists at the National Soil Erosion Laboratory, Purdue University, and at the Natural Resource Conservation Service (formerly Soil Conservation Service), Columbus, Ohio agreed that given the implementation of the erosion control measures specified in the Draft PA/EA, actual soil loss from the well sites would be minimal. The Revised Universal Soil Loss Equation (RUSLE) was selected as a more accurate model for quantifying possible erosion, and not to obtain estimates that would represent lower figures than those calculated by the Youngstown State University (YSU) group. The original USLE was developed for use by the agricultural industry. The revised version has been adapted for application to construction sites. The application of the RUSLE in the Draft PA/EA was accomplished with the assistance of Dr. George Foster, Agricultural Research Service, College Station, Texas, who is the originator of the revised equation.

COMMENT, page 71: Mr. Vogel - "... the council governments and the committee opposed was never included in the data gathering process."

RESPONSE: BLM solicited pertinent data during virtually every phase of this process. From May of 1996 through May of 1998, BLM sponsored and/or attended 13 public meetings/field trips in the local area. Two of the initial meetings were sponsored by the Trumbull County Council of Governments. One of the purposes of these meetings was to identify available data which could be incorporated into the environmental analysis process. Representatives of local governments, as well as the Coalition Opposing the Gas and Oil Drilling, attended all of these meetings. At the time preliminary alternatives were being developed, local governmental representatives were invited and did attend a working meeting of the planning team. Specific details of meetings can be found in Chapter Five of the Draft PA/EA.

COMMENT, page 72-74: Mr. Vogel - Was applicable data from the U.S. Geological Survey (USGS) studies used in the Draft PA/EA?

RESPONSE: The USGS study done for the City of Cortland examined the hydrogeologic framework of the bedrock aquifers in the area (USGS, 1997). The results of the USGS Cortland hydrogeologic study, as well as other studies



the water will remain in the ground and will not cause additional fish kills. And now, it is my understanding that the base level (DRAFT AREA) stands over the possibility. Certainly, you've shown a formula that has diminished the erosion impact from the Youngstown State report that you folks held as the actual level and has won."

RESPONSE: Management measures developed during the analysis process would lessen the amount of erosion and subsequent sedimentation. The measures were specifically developed to provide sediment from washing off the construction site. Specialists at the National Soil Erosion Laboratory, Purdue University, and at the National Resource Conservation Service (formerly Soil Conservation Service), Columbus, Ohio, agreed that given the implementation of the erosion control measures specified in the Draft AREA, actual soil loss from the well site would be minimal. The Revised Universal Soil Loss Equation (RUSLE) was selected as a more accurate model for quantifying possible erosion, and not to obtain estimates that would represent lower figures than those calculated by the Youngstown State University (YSU) group. The revised RUSLE was developed for use by the agricultural industry. The application version has been adapted for application to construction sites. The application of the RUSLE in the Draft AREA was accomplished with the assistance of Dr. George Foster, Agricultural Research Service, College Station, Texas, who is the originator of the revised equation.

COMMENT: page 11, Mr. Vogel - "... the canal government and the companies" were not included in the data gathering process."

RESPONSE: BLM solicited pertinent data during virtually every phase of this process. From May of 1996 through May of 1998, BLM sponsored and/or attended 17 public meetings in the local area. Two of the initial meetings were sponsored by the Tarrant County Council of Government. One of the purposes of these meetings was to identify available data which could be incorporated into the environmental analysis process. Representatives of local government, as well as the Coalition opposing the Gas and Oil Drilling, attended all of these meetings. At the time preliminary estimates were being developed, local government representatives were invited and did attend a working meeting of the planning team. Specific details of meetings can be found in Chapter Five of the Draft AREA.

COMMENT: page 12-14: Mr. Vogel - Was specific data from the U.S. Geological Survey (USGS) studies used in the Draft AREA?

RESPONSE: The USGS study done for the City of Garland examined the hydrologic framework of the bedrock aquifer in the area (USGS, 1997). The results of the USGS bedrock hydrologic study, as well as other studies



which have been performed in the region, were included, as appropriate, in the Draft PA/EA. Specifically, information provided in the Cortland study was used to determine the gross mean water volume and acreage for Mosquito Creek Lake. This information, in combination with computer generated acreage of the lake south of Walnut Creek inlet, was used in volumetric calculations to characterize impacts associated with a potential spill from a brine truck into Walnut Creek. In addition, information from the Cortland study was used to determine the flushing rate for Mosquito Creek Lake. Because the USGS Warren study was not completed by the time the Draft PA/EA was released, its results were not included. However, the results of the Warren study have been incorporated into this Proposed PA/EA (see page 3).

COMMENT, pages 78-80: Mr. Vogel - Concern was raised over response capability of Weathersfield Township (travel distance and level of response); requests more detail on HazMat teams; mitigation plan is very general; requests priority response capabilities of resources cited; states that every HazMat unit cited has stated that they can't respond in a timely fashion.

RESPONSE: None of the HazMat teams commented to BLM about an inability to respond in a timely fashion. For additional information related to this comment, please see RESPONSE to COMMENT letter from the Cortland City Fire Department, page 14 and RESPONSE to COMMENT from Mr. Vogel (page 58, Cortland transcript), page 50. County, State, regional and national contingency plans discussed in BLM's response to the Cortland City Fire Department address spill/emergency response priorities.

COMMENT, page 83: Mr. Vogel - Lakeview Local School District (LLSD) had no business "being included in any portion or authorship or support for the document because they had no mineral rights or interest in the document or in the leasing process."

RESPONSE: The LLSD owns 100% of the surface estate while the Federal government (not the COE) owns 100% of the mineral estate in the 32.46 acre tract proposed for leasing. The LLSD has an interest in the tract as a surface owner who could be directly impacted by oil and gas operations resulting from leasing of the Federal oil and gas in the tract. BLM Milwaukee Field Office policy is to contact surface owners to notify them of proposed leasing of the Federal mineral estate, to request information about surface resources and uses, and to determine the surface owner's issues and concerns regarding potential oil and gas operations on the land. Mr. Raidel, acting on behalf of the LLSD, provided BLM surface use and resource information and reasons why the LLSD believed the surface was inappropriate for occupancy by oil and gas operations. The LLSD did not author any portion of the Draft PA/EA. Mr. Raidel and the LLSD no more supported the BLM document than did any other



which have been performed in the region, were included, as appropriate, in the  
Data PAVE. Specifically, information provided in the Contland study was  
used to determine the gross mean water volume and average for Minnesota  
Creek Lake. This information, in combination with computer generated  
coverage of the lake south of Walnut Creek inlet, was used in volumetric  
calculations to estimate impacts associated with a potential spill from a  
boat track near Walnut Creek. In addition, information from the Contland  
study was used to determine the flushing rate for Minnesota Creek Lake.  
Because the USGS Water study was not completed by the time the Draft  
PAVE was released, its results were not included. However, the results of the  
Water study have been incorporated into this proposed PAVE (see page 3).

COMMENT: page 78-80; Mr. Vogel - Comment was raised over response capability of  
Walworth Township (over distance and level of response; requests more detail  
on Hazmat team; mitigation plan is very general; requests priority response  
capabilities of resources cited; states that every Hazmat unit cited has stated that they  
can respond in a timely fashion.

RESPONSE: Most of the Hazmat teams contacted to BLM about an  
ability to respond in a timely fashion. For additional information related to  
this comment, please see RESPONSE to COMMENT letter from the Contland  
City Fire Department, page 14 and RESPONSE to COMMENT from Mr.  
Vogel (page 35, Contland township), page 30. County, State, regional and  
national contingency plans identified in BLM's response to the Contland City  
Fire Department address emergency response priorities.

COMMENT: page 81; Mr. Vogel - Lakeview Local School District (LLSD) had no  
business being included in any position on authorship or support for the document  
because they had no mineral rights or interest in the document or in the leasing  
process.

RESPONSE: The LLSD owns 100% of the surface estate while the Federal  
Government (not the DOE) owns 100% of the mineral estate in the 3246 acre  
tract proposed for leasing. The LLSD has an interest in the tract as a surface  
owner who could be directly impacted by oil and gas operations resulting from  
leasing of the Federal oil and gas in the tract. BLM Milwaukee Field Office  
policy is to contact surface owners to notify them of proposed leasing of the  
Federal mineral estate, to request information about surface resources and uses,  
and to determine the surface owner's issues and concerns regarding potential oil  
and gas operations on the land. Mr. Kaidel, acting on behalf of the LLSD,  
provided BLM surface use and resource information and reasons why the  
LLSD believed the surface was inappropriate for occupancy by oil and gas  
operations. The LLSD did not author any portion of the Draft PAVE. Mr.  
Kaidel and the LLSD no more supported the BLM document than did any other



Federal or State resource agency that provided information for the analysis.

COMMENT, page 85: Mr. Roger Hernon - Requested a statistical risk assessment related to the risk associated with drilling a range of zero to 41 wells.

RESPONSE: The Draft PA/EA does include statistical analyses relating to risk. Historical data relating to numbers of oil/brine spills, fires/explosions, pipeline failures, well blowouts, and tanker truck accidents was used to predict the risk associated with additional development. It should be noted that any development that may occur at Mosquito Creek Lake as a result of this proposal would be subject to more stringent protective measures than those in place for existing wells in the area. The maximum number of wells proposed to be drilled, if leasing occurs, is 41. The total number of existing wells in Trumbull County is approximately 2,400. The level of risk analysis documented in the Draft PA/EA is deemed sufficient and a multi-variable computer generated risk analysis is not warranted.

#### RESPONSES TO COMMENTS FROM CORTLAND TRANSCRIPT

COMMENT, page 28: Ms. Long, Cortland City Council Member -

- 1) "On page 3-4 of the blue book [Draft PA/EA], the draft has no reference to the runoff from an industrial site in Cortland on the east shore of the lake".
- 2) A letter from Cortland City Fire Chief, Bill Novakovich raised a concern regarding the response capability of the Cortland fire department in the event of a spill.

RESPONSE: 1) The location of this industrial site has been included in this document on page 8. It is recognized that a variety of pollutants impact Mosquito Creek Lake every day. Increasingly, water pollution problems are associated with nonpoint sources such as construction sites, farmland, landfills, roads/highways, and sewage systems. Unlike point sources of pollution, discharges from nonpoint sources are not regulated and they are not treated. The concentration of pollutants in urban runoff varies with the amount of material deposited, amount of impervious surface, vegetative cover, time between rainfall events, and the duration and intensity of rainfall. The Ohio Nonpoint Source Management Program (1989) identifies constituents/primary sources of highway runoff. Similar contaminants could be expected from large paved parking lots. Typical contaminants include particulates, nitrogen, phosphorus, metals (e.g. lead, zinc, iron, copper, cadmium, etc.), bromide, cyanide, sodium, calcium, chloride, petroleum, polychlorinated biphenyls, rubber and sediment. Sources include, but are not limited to, auto exhaust, tire wear, lubricating oil and grease, motor oil, rust, moving engine parts, fuels, deicing salts, antifreeze, soil, bird droppings, litter, and erosion. The opening of this industrial site poses one additional source of contamination for Mosquito Creek Lake.



Project or State resource agency has provided information for the analysis.

COMMENT: page 20 Mr. Roger Herman - Requested a statistical risk assessment related to the risk associated with drilling a range of 41 wells.

RESPONSE: The Draft EIR/EA does include statistical analysis relating to the historical risk relating to numbers of oilfield spills, investigations, pipeline failures, well blowouts, and other such accidents were used in previous risk assessments with a statistical development. It should be noted that any development that may occur in Mississippi County Lake as a result of the proposed would be subject to some stringent protective measures than those in place for existing wells in the area. The maximum number of wells proposed to be drilled is being set at 41. The total number of existing wells in Mississippi County is approximately 2,400. The level of risk analysis conducted in the Draft EIR/EA is deemed sufficient and a multi-variable statistical approach that analysis is not warranted.

#### RESPONSE TO COMMENTS FROM COUNCIL TRANSPORT

COMMENT: page 20 Mr. Larry, Council City Council Member -  
1) The page 2-4 of the blue book (Draft EIR/EA) the draft has no reference to the report from an industry site in Council on the east shore of the lake.  
2) A letter from Council City Council Bill Novakovich noted a concern regarding the presence of the Council the department is the event of a spill.

RESPONSE: 1) The location of the industrial site has been included in this document on page 2. It is recognized that a variety of pollution impacts Mississippi County Lake every day. Increasingly, water pollution problems are associated with industrial wastes such as construction sites, residential, landfill, municipal, and sewage systems. Unlike point sources of pollution, the changes from nonpoint sources are not regulated and they are not treated. The consequences of pollution in urban runoff varies with the amount of chemical deposited, amount of vegetation cover, vegetative cover, time between rainfall events, and the character and intensity of rainfall. The Ohio Department of Health (1999) identified several potential sources of large sources of highway runoff. Potential contaminants could be expected from large paved parking lots. Typical contaminants include petroleum, nitrogen, phosphorus, metals (e.g., lead, zinc, iron, copper, cadmium, and chromium), organic solvents, calcium, chloride, polychlorinated biphenyls, and sediment. Sources include, but are not limited to, auto exhaust, tire wear, lubricating oil and grease, motor oil, fuel, engine parts, brake, debris, soil, and shingles, tires, and gravel. The ongoing of this industrial site poses no additional source of contamination for Mississippi County Lake.



2) See RESPONSE to COMMENT letter from the Cortland City Fire Department, page 14 and RESPONSE to COMMENT from Mr. Vogel, (page 58, Cortland transcript), page 50.

COMMENT, page 29: Ms. Long, Cortland City Council Member - Comment stating that in 1996, Portage County received \$23,500 from Federal leases.

RESPONSE: According to information supplied by the Ohio Department of Natural Resources, Office of Budget and Finance, mineral leasing receipts paid to Portage County in 1996 amounted to \$104,710.39. This information is reproduced in the document entitled, "Overview Draft for Proposed Mosquito Creek Reservoir Leasing/Drilling Project", prepared by Trish Nuskiewicz, Trumbull County Planning Commission, in July, 1997.

COMMENT, page 32: Ms. Mack - "Has anybody made an assessment of how many wells have been plugged, how long they have been depleted of gas or oil? Because I have 50 acres and we have a well that's been depleted and hasn't produced for three years. You can't get the oil companies to plug the wells."

RESPONSE: No documented assessment has been made regarding how many wells have been plugged or how long they have been depleted of gas or oil. Page 4-74 of the Draft PA/EA addresses what steps would occur if an operator refuses to properly plug and abandon a well. Also, please refer to RESPONSES to COMMENTS #6 and #13b in the letter from the U.S. Army Corps of Engineers, pages 25 and 31, respectively.

COMMENT, page 34: Mr. Glancy - Comment stating that the Draft PA/EA does not establish how revenues from Federal wells will be distributed to Bazetta Township from the county or the State.

RESPONSE: United States Code, Title 33, Navigation - Navigable Waters, Paragraph 701c-3 entitled, "Lease receipts; payment of portion to States", states that "75 per centum of all moneys received and deposited in the Treasury of the United States during any fiscal year on account of the leasing of lands acquired by the United States for flood control, navigation, and allied purposes, including the development of hydroelectric power, shall be paid at the end of such year by the Secretary of the Treasury to the State in which such property is situated, to be expended as the State legislature may prescribe for the benefit of public schools and public roads of the county, or counties in which the property is situated . . . the term "money" includes . . . such bonuses, royalties, and rentals . . . paid to the United States from a mineral lease issued under the authority of the Mineral Leasing Act for Acquired Lands."

Federal oil and gas operators pay bonuses, royalties, and rentals to U.S.



2/ See RESPONSE to COMMENT letter from the Council City Fire Department, page 14 and RESPONSE to COMMENT from Mr. Vogel, page 26. Continued on next page, page 20.

COMMENT, page 25. Mr. Vogel, Council City Council Member - Comment stating that in 1996, Poudre County received \$22,500 from Federal leases.

RESPONSE: According to information supplied by the Ohio Department of Natural Resources, Office of Budget and Finance, annual leasing receipts paid to Poudre County in 1996 amounted to \$104,710.98. This information is reported in the document entitled, "Overview Draft for Proposed Mineral Creek Resource Leasing/Drilling Project," prepared by Tish Neustrova, Township County Planning Commission, in July, 1997.

COMMENT, page 25: Mr. Mack - "This agency made an assessment of how many wells have been plugged, how long they have been depleted of gas or oil. Because I have 20 acres and we have a well that's been depleted and hasn't produced for three years. You want get the oil companies to plug the wells."

RESPONSE: The documented assessment has been made regarding how many wells have been plugged or how long they have been depleted of gas or oil. Page 4-14 of the Draft PAVEA address what steps would occur if an operator refuses to plug and abandon a well. Also, please refer to RESPONSE to COMMENT, 25 and 26, in the letter from the U.S. Army Corps of Engineers, pages 25 and 26, respectively.

COMMENT, page 26: Mr. Mack - Comment stating that the Draft PAVEA does not establish how revenues from Federal wells will be distributed to Poudre Township from the county or the State.

RESPONSE: Under State Code, Title 33, Navigation - Navigable Waters, Paragraph 33-3-2 entitled, "Lease revenues; payment of portion to State," states that "75 per centum of all monies received and deposited in the Treasury of the United States during any fiscal year on account of the leasing of lands acquired by the United States for flood control, navigation, and allied purposes, including the development of hydroelectric power, shall be paid at the end of each year by the Secretary of the Treasury to the State in which such property is situated to be expended as the State legislature may prescribe for the benefit of public schools and public works of the county, or counties in which the property is situated. . . the term 'monies' includes . . . each bonus, royalty, and rentals . . . paid to the United States from a mineral lease issued under the authority of the Mineral Leasing Act for Acquired Lands."

Federal oil and gas operators pay bonuses, royalties, and rentals to U.S.



Department of the Interior's Minerals Management Service (MMS). MMS distributes 75% of the oil and gas revenues to each State's Treasurer. In the case of Ohio, the DNR, Office of Budget and Finance, sends each County Treasurer a single check combining revenues from Federal oil and gas leases (mineral leasing receipts), flood receipts from the Army Corps of Engineers' reservoir projects, and forest receipts from the U.S. Forest Service. The County Treasurer/Auditor's office distributes the revenues to the townships in the manner each County has established. Ad valorem or property taxes on oil and gas production are also assessed by County governments and the receipts distributed to multiple local political subdivisions including townships. The Federal government has no control over distribution of revenues at the local level, i.e. beyond distribution to the County.

COMMENT, page 35: Mr. Piros - Concern was raised related to potential road damage and adequacy of the existing road bonds.

RESPONSE: Road use restrictions and bonding related to overweight/oversize vehicles are imposed at the local and State levels and are designed to minimize damage to roads. If proper restrictions are not implemented, road damage could occur. BLM has no authority to impose additional restrictions related to road use. Road bonds are administered by the permitting entities. Also, please refer to RESPONSE to COMMENT from Mr. Vogel (page 59, Cortland transcript), page 52.

COMMENT, page 37: Ms. Machingo - There are statistics about noise pollution in the Draft PA/EA from 1979.

RESPONSE: The statistics referred to appear to be the noise level measurements for construction, pipeline installation and traffic provided in Table 4.7 on pages 4-51 and 52 of the Draft PA/EA. These noise level measurements came from "Noise In The Human Environment" edited by H.W. Jones. These were scientific measurements of noise levels which are as valid today as in 1979.

COMMENT, page 39: Miss Busko - Concern was raised over the "... hundreds of acres that you are probably going to destroy through the drilling process ...".

RESPONSE: Total projected acres disturbed under Alternatives A and B would be 62 and 77 acres, respectively. Following reclamation, acreage not revegetated would total 7 and 12 acres. This acreage would be stabilized and in use during the production phase (access road, wellhead, wellhead turn-around area, and tank battery).

COMMENT, page 42: Ms. Stafford - What is the term of employment estimates



Department of the Interior's Mineral Management Service (MMS). MMS distributes 75% of the oil and gas revenues to each State's Treasurer. In the case of Ohio, the MMS, Office of Budget and Finance, sends each County Treasurer a check of the oil and gas revenues from Federal oil and gas leases (mineral leasing receipts). These receipts from the Army Corps of Engineers, reservoir projects, and forest receipts from the U.S. Forest Service. The County Treasurer's Office distributes the revenues to the township in the amount each County has established. All valuation or property taxes on oil and gas production are also assessed by County government and the receipts distributed to township local political subdivisions including township. The Federal government has no control over distribution of revenues at the local level, i.e. beyond distribution to the County.

COMMENT, page 35: Mr. Piro - Comment was raised related to potential road damage and adequacy of the existing road base.

RESPONSE: Road use restrictions and bonding related to overweight/oversize vehicles are important at the local and State levels and are designed to minimize damage to roads. If proper restrictions are not implemented, road damage would occur. MMS has no authority to impose additional restrictions related to road use. Road bonds are administered by the permitting entities. Also, please refer to RESPONSE to COMMENT from Mr. Vogel (page 59, Contland testimony), page 52.

COMMENT, page 37: Mr. Blachaga - There are statistics about air pollution in the Draft FEA from 1979.

RESPONSE: The statistics referred to appear to be the noise level measurements for construction, pipeline installation and traffic provided in Table 4.7 on pages 4-51 and 52 of the Draft FEA. These noise level measurements came from "Noise in the Human Environment" edited by H.W. Lewis. These were scientific measurements of noise levels which are valid today as in 1979.

COMMENT, page 38: Mr. Piro - Comment was raised over the "... hundreds of acres that you are probably going to destroy through the drilling process..."

RESPONSE: That project area described under Alternatives A and B would be 65 and 77 acres, respectively. Following reclamation, which was requested would be 7 and 13 acres. This acreage would be stabilized and in use during the production phase (access road, wellhead, wellhead tank, and tank battery).

COMMENT, page 43: Mr. Starnob - What is the term of employment estimates



provided in Tables 4-10 and 4-11 (pages 4-63 and 4-64) of the Draft PA/EA? What types of employment do the estimates represent?

RESPONSE: Increases in employment levels shown in Tables 4-10 and 4-11 of the Draft PA/EA represent the overall increase in employment for the State with no regard to timing. The employment figures depict the total impact on the number of jobs, Statewide, over the term of the proposal, given either alternative. Length of employment associated with any of the jobs that may be generated is impossible to determine through the RIMS II economic model used in this study.

Immediate employment is expected for construction, drilling and well service workers. Secondary industries such as stores and restaurants may require additional employment during well site and pipeline construction. Access road maintenance workers and well tenders will be employed for as long as the wells are in production. An increase in employment may also occur in the manufacturing sector if additional oil and gas and/or construction equipment is needed.

COMMENT, page 43: Mr. Vogel - Comment refers to a previous briefing report that states "... it is the policy of the Department of the Army that all lands under its control will be made available for oil and gas leasing, except that installations or civil works projects specifically excluded from such leasing." Statement in transcript claims that the Corps of Engineers has failed in their moral and legal obligation set forth in their mission statement to protect resources at Mosquito Creek Lake.

RESPONSE: Department of the Army oil and gas leasing policy states that "in accordance with Department of Defense policy to promote the optimal use of its lands under the multiple-use principle, it is the policy of the Department of the Army that all lands under its control will be made available for oil and gas leasing, except at installations or civil works projects specifically excluded from such leasing upon the recommendation of the Chief of Staff or Chief of Engineers, respectively, and approval by the Secretary of the Army." Mosquito Creek Lake, as a civil works project, has not been specifically excluded from leasing.

COMMENT, page 44: Mr. Vogel - "There has been no recent accurate census data or research done regarding Corps of Engineers identified threatened and endangered species of both plant and animal life in target areas."

RESPONSE: Refer to RESPONSE to COMMENT from Mr. Vogel, (page 60-61, Warren transcript), page 41.

COMMENT, page 49: Mr. Vogel - Concern raised over possible exceptions that may



provided in Table 4-10 and 4-11 (pages 4-63 and 4-64) of the Draft PAEA? What types of employment do the estimates represent?

RESPONSE: Increases in employment levels shown in Tables 4-10 and 4-11 of the Draft PAEA represent the overall increase in employment for the State with no regard to leasing. The employment figures depict the total impact on the number of jobs statewide, not the net of the proposal, given either alternative. Leasing of employment associated with any of the jobs that may be generated is expected to determine through the RIMS II economic model used in this study.

Immediate employment is expected for construction, drilling and well services workers. Secondary industries such as stores and restaurants may require additional employment during well site and pipeline construction. Access road maintenance workers and well workers will be employed for as long as the wells are in production. An increase in employment may also occur in the manufacturing sector if additional oil and gas and/or construction equipment is needed.

COMMENT: page 43 Mr. Vogel - Comment refers to a previous briefing report that states "... it is the policy of the Department of the Army that all lands under its control will be made available for oil and gas leasing, except that installations or civil works projects specifically excluded from such leasing." Statement in transcript claims that the Corps of Engineers has failed in their moral and legal obligation and loath in their mission statement to protect resources in McPherson Creek Lake.

RESPONSE: Department of the Army oil and gas leasing policy states that "in accordance with Department of Defense policy to promote the optimal use of its lands under the multiple-use principle it is the policy of the Department of the Army that all lands under its control will be made available for oil and gas leasing, except that installations or civil works projects specifically excluded from such leasing upon the recommendation of the Chief of Staff or Chief of Engineers, respectively, and approved by the Secretary of the Army." McPherson Creek Lake, as a civil works project, has not been specifically excluded from leasing.

COMMENT: page 44 Mr. Vogel - There has been no recent accurate census data or research done regarding Corps of Engineers identified threatened and endangered species of both plant and animal life in target areas."

RESPONSE: Refer to RESPONSE to COMMENT from Mr. Vogel, (page 60-61, Written testimony, page 41).

COMMENT: page 49 Mr. Vogel - Concern raised over possible exceptions that may



be granted for surface disturbance on Corps of Engineers' property related to access roads, pipelines, and "things of that nature". The comment states that there will be "encroachments on Corps of Engineers' property through this drilling process."

RESPONSE: The only exception to the "no surface occupancy" stipulation identified in the Draft PA/EA was for buried pipelines. The Corps of Engineers has indicated that they would consider approving buried pipelines crossing the Mosquito Creek Lake project area on a case-by-case basis. Prior to granting approval for buried pipelines, the Corps of Engineers would evaluate site-specific impacts and identify measures necessary to protect surface resource values.

COMMENT, pages 51-52: Mr. Vogel - Bazetta Township response capability with regard to oil spills on Mosquito Creek Lake is not adequate; BLM doesn't discuss what is required for prudent mitigation measures.

RESPONSE: See RESPONSE to COMMENT letter from the Cortland City Fire Department, page 14 regarding oil spill response. The oil and gas operator responsible for a spill into Mosquito Creek Lake would also be responsible for providing booms, if needed. If the oil and gas operator could or would not do so, the OEPA would activate a contractor(s) who had such equipment and experience at deploying it.

COMMENT, page 53: Mr. Vogel - BLM doesn't address potential vandalism situations such as the site at Berlin Lake that had a "42-gallon barrel of crude oil with plywood lid".

RESPONSE: Vandalism at oil and gas sites is addressed on page 4-69 of the Draft PA/EA. Existing constraints and mitigation measures related to vandalism are listed in Table 4.1, page 4-18 and special mitigation measures related to vandalism are listed in Appendix A, pages A-16 to A-18 of the Draft PA/EA. Measures that would minimize the threat of vandalism include locked gates or cable on access roads and fences with locked gates around both wellhead and production facilities.

At the oil and gas site referred to in the comment, the oil and brine storage tanks are secured inside a fence with a locked gate. While the oil tank salesline extends beyond the tank battery fence and dike, the control valves for the salesline are at each tank inside the secured area and are not accessible to the general public. The "barrel" referred to in the comment serves as a containment vessel for any oil drips resulting from the oil purchaser connecting and disconnecting a hose at the end of the salesline during an oil pick-up. This arrangement is preferable to allowing the oil to drip on the ground. This arrangement, which has been in place for about six years, has not resulted in an



be granted for surface disturbance on Corps of Engineers property related to access to the pipeline, and "steps of the project". The statement states that there will be "no permanent on Corps of Engineers property through this drilling process."

REPLY: The only exception to the "no surface occupancy" stipulation identified in the Draft EIS was for buried pipelines. The Corps of Engineers has indicated that they would consider approving buried pipelines crossing the Mississippi River project area on a case-by-case basis. Prior to granting approval for buried pipelines, the Corps of Engineers would evaluate site-specific impacts and identify measures necessary to protect surface resource values.

COMMENT: pages 21-22 Mr. Vogel - Bureau Township response capability with regard to oil spills on Mississippi River Lake is not adequate. BLM doesn't discuss what is required for prudent mitigation measures.

RESPONSE: See RESPONSE to COMMENT letter from the Council City. The Department, page 14 regarding oil spill response. The oil and gas operator responsible for a spill into Mississippi River Lake would also be responsible for providing booms if needed. If the oil and gas operator could or would not do so, the Corps would activate a contractor(s) who had such equipment and experience in responding to spills.

COMMENT: page 22 Mr. Vogel - BLM doesn't address potential vandalism situation such as the one at Badin Lake that had a "45-gallon barrel of crude oil with plywood lid."

RESPONSE: Vandalism at oil and gas sites is addressed on page 4-56 of the Draft EIS. Existing measures and mitigation measures related to vandalism are listed in Table 4-1, page 4-18 and special mitigation measures related to vandalism are listed in Appendix A, pages A-16 to A-18 of the Draft EIS. Measures are needed to maintain the threat of vandalism include locked gates or cables to secure roads and fences with locked gates around both wellhead and production facilities.

At the oil and gas site referred to in the comment, the oil and brine storage tanks are secured inside a fence with a locked gate. While the oil tank isolation extends beyond the tank battery fence and dikes, the control valves for the isolation are at each end inside the secured area and are not accessible to the general public. The "panel" referred to in the comment serves as a containment vessel for any oil drips resulting from the oil pipeline connection and disconnecting a hose at the end of the isolation during an oil pick-up. This arrangement is preferable to allowing the oil to drip on the ground. This arrangement, which has been in place for about six years, has not resulted in an



oil spill or public health hazard.

COMMENT, page 53: Mr. Vogel - A comment was made stating the BLM did not "take into account Delphi Packard's reopening of the plant in Cortland . . . You figure 500 cars a shift coming in there. You [BLM] don't account for that in this report. A vacant piece of land, concrete, is different from a piece of land that will have cars carrying road salt, cars starting up, and what they do to that fragile environment . . ."

RESPONSE: See RESPONSE to COMMENT from Ms. Long (page 28, Cortland transcript), page 45.

COMMENT, page 55: Mr. Vogel - The PA/EA did not mention the Halliburton "spill".

RESPONSE: The only information BLM has available in regard to the Halliburton "spill" is from the COE's "Report on Utilization of Civil Works Lands and Facilities" (dated October 5, 1995) for Mosquito Creek Lake. This report indicates that Halliburton had a permit from the Ohio Environmental Protection Agency (OEPA) that allowed cleaning of holding tanks which discharged petroleum-based products into a drainage ditch that went under a road and into the lake (this was presumably a National Pollutant Discharge Elimination System (NPDES) ~~permit for a point source discharge to a~~ navigable water). Heavy rainfall would cause the holding tanks to overflow. This resulted in reported oil slicks on the lake, killing of grass and other vegetation, dead earthworms and other environmental degradation. In 1995, COE Project personnel and ODNr Divisions of Parks and Recreation and Wildlife were attempting to resolve the problem with the OEPA. This Halliburton facility has since closed.

COMMENT, page 58: Mr. Vogel - "Every local government and every authority that we have . . . have told you, have told us and the government, that there is no way Trumbull County has the resources available to handle your project."

RESPONSE: BLM did not receive comments from local government officials indicating that Trumbull County lacks the resources to "handle this project". BLM did not receive any comment from the City of Warren. BLM did not receive any comment from the Trumbull County Emergency Management Agency (TCEMA)/Local Emergency Planning Committee (LEPC). BLM did receive letters from City of Cortland Fire Department (May 8, 1998) and Bazetta Township Fire Department (July 10, 1998) clarifying the limitations of local emergency response groups and expressing concern that statements made on page 4-73 of the Draft PA/EA under "Impact To Local Emergency Response Capability" give a false sense of security about local response capabilities (see Appendix B, Public Comment Letters, pages 69 and 89).



oil spill or public health hazard.

COMMENT, page 25 Mr. Vogel - A comment was made stating the BLM did not take into account Delphi Park's reputation of the plant in Cordland. You figure 500 was a shift coming in there. You (BLM) don't account for that in this report. A vacant piece of land, located, is different from a piece of land that will have some existing road and cars standing up, and what they do to that fragile environment.

RESPONSE: See RESPONSE to COMMENT from Mr. Long (page 25)  
Cordland Township, page 42.

COMMENT, page 25 Mr. Vogel - The FEA did not mention the Halliburton

RESPONSE: The only information BLM has available in regard to the Halliburton "spill" is from the DOE's "Report on Utilization of Civil Works Lands and Facilities" (dated October 5, 1995) for Mescalito Creek Lake. This report indicates that Halliburton had a permit from the Ohio Environmental Protection Agency (OEPA) that allowed cleaning of holding tanks which discharged petroleum-based products into a drainage ditch that went under a road and into the lake (this was presumably a National Pollutant Discharge Elimination System (NPDES) permit for a petroleum discharge to a navigable water). Heavy rainfall would cause the holding tanks to overflow. This resulted in reported oil slicks on the lake, killing of grass and other vegetation, dead catfish and other environmental degradation. In 1995, the DOE Project reviewed and ODEP Division of Parks and Recreation and Wildlife were attempting to resolve the problem with the OEPA. The Halliburton facility has since closed.

COMMENT, page 28 Mr. Vogel - "Every local government and every authority that we have... have told you have told us and the government that there is no way Marshall County has the resources available to handle your project."

RESPONSE: BLM did not receive comments from local government officials indicating that Marshall County lacks the resources to "handle this project." BLM did not receive any comment from the City of Warren. BLM did not receive any comment from the Marshall County Emergency Management Agency (TCEM/Local Emergency Planning Committee (LEPC)). BLM did receive letters from City of Cordland Fire Department (May 8, 1998) and Bureau Township Fire Department (July 10, 1998) clarifying the limitations of local emergency response groups and expressing concern that statements made on page 4-13 of the Draft FEA under "Impact To Local Emergency Response Capability" give a false sense of security about local response capabilities (see Appendix B, Public Comment Letters, pages 69 and 89).



The Cortland Fire Department indicated that they have responded to and handled oil and gas well site incidents in the past. However, the Department lacks the equipment and expertise needed to respond to a spill into Mosquito Creek Lake.

Bazetta Township Fire Department stated that while they have responded to and handled gas and oil well emergencies in the past, the Township Department has used the Trumbull County HazMat Team to assist them, as the Department is not equipped to handle a large spill. According to the Department, all of Bazetta's vehicles have spill kits on board that can handle a spill until the HazMat team arrives and the whole Bazetta Department is trained and certified to the operations level with a few members trained to the technician level. The Department indicated that the County HazMat Team, the Mineral Ridge Fire Department and Warren City Fire Department have vehicles set up for response with a limited amount of sorbents on their vehicles. Hubbard Fire Department has trained personnel to respond to emergencies with very limited equipment as they do not have a vehicle just for that purpose. When dealing with a spill in Bazetta Township, the Trumbull County HazMat team would be requested to respond. The Trumbull County HazMat team has mutual aid agreements with other teams that can assist them if needed. Spill response is addressed in the RESPONSE to COMMENT letter from the Cortland City Fire Department, page 14.

In a March 7, 1997 letter to Melissa Long, the Trumbull County Emergency Management Agency (TCEMA) indicated that the Trumbull County Emergency Operations Plans address oil and gas well emergencies in a general sense. The letter further stated that a free standing oil and gas well emergency plan is necessary in light of the large number of existing wells in the county and the prospect of continued oil and gas activity in the county. In April 1998 the TCEMA completed Annex P (Gas and Oil Wells Emergency Response Plan) to the County Emergency Operations Plan. The TCEMA intends to run an emergency preparedness exercise for an oil and gas incident sometime in the fall of 1998 (Bartlomain, 1998). There has been no indication from the TCEMA that a lack of an oil and gas-specific emergency plan has jeopardized the ability of the local emergency response community to do its job.

Oil and gas drilling and production operations have been ongoing in the county for many years. In the past 7 years an average of 2,400 wells have operated in the county. As shown in the Draft PA/EA analysis, emergency incidents related to these operations have been rare. There has been no indication from the local fire departments, HazMat teams or the TCEMA/LEPC that the emergency response community has been unable to handle emergency incidents related to this number of wells in the past. An additional 14 to 41 wells that could result from Alternative A and B as described in the Draft PA/EA



The Portland Fire Department indicated that they have responded to and handled oil and gas well site incidents in the past. However, the Department lacks the equipment and expertise needed to respond to a spill from a pipeline. (Exhibit A)

Barrett Township Fire Department stated that while they have responded to and handled gas and oil well emergencies in the past, the Township Department has not the Township County Hazard Team to assist them, as the Department is not equipped to handle a large spill. According to the Department, all of Barrett's vehicles have spill kits on board that can handle a spill until the Hazmat team arrives and the whole Barrett Department is trained and certified to the operations level with a few members trained to the technician level. The Department indicated that the County Hazard Team, the Barrett Township Fire Department and Warren City Fire Department have vehicles set up for response with a limited amount of personnel to respond to emergencies with Barrett Fire Department. They do not have a vehicle just for that purpose. When dealing with a spill in Barrett Township, the Township County Hazard Team would be requested to respond. The Township County Hazard Team has mutual aid agreements with other towns that can assist if needed. Spill response is addressed in the RESPONSE to COMMENTS letter from the Portland City Fire Department, page 14.

In a March 7, 1997 letter to Michael Long, the Township County Emergency Management Agency (TCEMA) indicated that the Township County Emergency Management Agency has a spill kit on board and gas well emergency plan is better suited than a spill kit on board and gas well emergency plan is necessary to fight the large number of oil and gas wells in the county and the prospect of oil and gas activity in the county. In April 1998 the TCEMA requested Agency F (Oil and Gas) to develop a spill kit on board and gas well emergency plan. The TCEMA indicated to the emergency response committee for oil and gas incidents to assist in the development of a spill kit on board and gas well emergency plan. There has been no action taken from the TCEMA due to a lack of an oil and gas well emergency plan has jeopardized the safety of the local emergency response community to do the job.

Oil and gas drilling and production operations have been ongoing in the county for many years. In the past 7 years an average of 2,400 wells have been drilled in the county. As shown in the Draft EIS, various emergency incidents related to these operations have been reported. There has been no indication from the local fire department, Hazmat team or the TCEMA that the emergency response committee has been unable to handle emergency incidents related to this number of wells in the past. An additional 41 wells that would result from Alternative A and B as described in the Draft EIS.



represent an increase of only 0.6% to 1.7% over the existing number of wells in the county.

COMMENT, page 59: Mr. Vogel - "You [BLM] didn't include local agencies and direct input into production of this document. You were exclusionary."

RESPONSE: See RESPONSE to COMMENT from Mr. Vogel (page 71, Warren transcript) page 43.

COMMENT, page 59: Mr. Vogel - "You can't dispute weights of trucks. You failed — you say one percent increase in traffic . . . Five hundred trucks, 580 trucks a year leaving those well sites, with up to 10,000 gallons of waste product in each truck, the weight of those vehicles running over Bazetta roads. You don't account for that."

RESPONSE: Page B-10 of the Draft PA/EA identifies the projected number of one-way trips during the production phase of both Class A and Class B/C vehicles. The maximum number of one-way trips would occur under Alternative B. It is projected that up to 364 one-way trips for Class B/C per year would be anticipated (291 brine trucks and 73 oil trucks). These projections assume development of all 41 wells. At a maximum, this represents one additional one-way trip per day. Size of oil trucks vary. A small oil truck (80 barrels or 3,360 gallons) would weigh approximately 50,000 pounds loaded. An oil tanker truck (150 barrels or 6,300 gallons) would weigh approximately 70,000 pounds loaded. Brine trucks are typically 80 barrel trucks (3,360 gallons). Loaded brine trucks weigh approximately 60,000 pounds. Any vehicle weighing in excess of 80,000 pounds would be required to obtain an overweight vehicle use permit from the State or county and file appropriate bonds. As stated on page 4-59 of the Draft PA/EA, the drilling rig is the only piece of equipment that would need a special overweight hauling permit. Townships may impose more stringent restrictions on road use with regard to weight limitations, as necessary. Roads with more stringent restrictions are posted appropriately. Existing controls imposed at the State, county and township level are designed to minimize damage to local roads.

COMMENT, pages 62-63: Ms. Long - No freestanding oil and gas well contingency plan has been implemented or tested.

RESPONSE: The Trumbull County Emergency Management Agency (TCEMA) completed an oil and gas-specific annex to the County Emergency Operations Plans in the spring of 1998. The TCEMA has preliminary plans to run an emergency preparedness exercise for an oil and gas incident sometime in the fall of 1998. There has been no indication from the TCEMA that lack of an oil and gas-specific emergency plan has jeopardized the ability of the local emergency response community to do its job. Oil and gas drilling and



represent an increase of only 0.6% to 1.7% over the existing number of wells in the county.

COMMENT, page 29: Mr. Vogel - "You [BLM] didn't include local agencies and their input into production of this document. You were exclusionary."

RESPONSE: See RESPONSE to COMMENT from Mr. Vogel (page 71).  
Written (handwritten) page 71.

COMMENT, page 29: Mr. Vogel - "You don't discuss weights of trucks. You failed to say any more about trucks in traffic. . . . Five hundred trucks, 250 trucks a year having these well sites, with up to 10,000 gallons of waste product in each truck, the weight of those vehicles running over Bacteria wells. You don't account for that."

RESPONSE: Page B-10 of the Draft BAAEA identifies the projected number of one-way trips during the production phase of both Class A and Class B/C vehicles. The maximum number of one-way trips would occur under Alternative B. It is projected that up to 304 one-way trips for Class B/C per year would be anticipated (291 prime trucks and 13 oil trucks). These projections assume development of all 41 wells. At a maximum, the response rate additional one-way trip per day. Size of oil trucks vary. A small oil truck (50 barrels or 2,500 gallons) would weigh approximately 50,000 pounds loaded. An oil tanker truck (150 barrels or 7,500 gallons) would weigh approximately 70,000 pounds loaded. Bore trucks are typically 80 barrel trucks (2,500 gallons). Loaded prime trucks weigh approximately 60,000 pounds. Any vehicle weighing in excess of 60,000 pounds would be required to obtain an overweight vehicle use permit from the State or County and file appropriate bonds. As stated on page 4-29 of the Draft BAAEA, the drilling rig is the only piece of equipment that would need a special overweight hauling permit. Townships may impose more stringent restrictions on road use with regard to weight limitations, as necessary. Roads with more stringent restrictions are posted appropriately. Existing controls imposed at the State, County and township level are designed to minimize damage to local roads.

COMMENT, pages 62-63: Mr. Long - "No restraining oil and gas well company plan has been implemented or tested."

RESPONSE: The Tumbull County Emergency Management Agency (TCEMA) completed an oil and gas-specific annex to the County Emergency Operations Plan in the spring of 1998. The TCEMA has preliminary plans to run an emergency preparedness exercise for an oil and gas incident sometime in the fall of 1998. There has been no indication from the TCEMA that an oil and gas-specific emergency plan has jeopardized the ability of the local emergency response community to do its job. Oil and gas drilling and



production operations have been ongoing in the county for many years. There are roughly 2,400 producing oil and gas wells in the county. As shown in the Draft PA/EA, emergency incidents related to these wells have been rare, and there would be minimal likelihood that emergency incidents would increase due to drilling and production of an additional 14 to 41 wells.

Based on the findings of the potential environmental impacts contained in the proposed project, the Draft PA/EA, and the information provided in the Proposed PA/EA, I have determined that the project will not be significant. This decision will not affect any significant natural resources or will the cumulative impacts of this project in combination with other past, present or reasonably foreseeable projects result in significant impacts. Therefore, I have concluded that an environmental impact statement is not required.

I have reviewed the environmental statement and find it to be adequate and complete. I have also reviewed the project and find it to be a valid project.

*[Signature]*  
John W. Luyck  
Project Manager

*[Signature]*  
9/23/96  
Title



production operations have been ongoing in the county for many years. There are roughly 2,400 producing oil and gas wells in the county. As shown in the Data PA/BA, emergency incidents related to these wells have been rare, and there would be minimal likelihood that emergency incidents would increase due to drilling and production of an additional 14 to 41 wells.

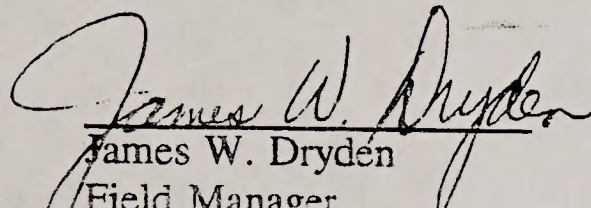


## FINDING OF NO SIGNIFICANT IMPACT

### REVIEW

Based on the analysis of the potential environmental impacts contained the Mosquito Creek Lake Draft Planning Analysis/Environmental Assessment (PA/EA) and additional information provided in the Proposed PA/EA, I have determined that impacts will not be significant. This decision will not affect any significant national resources; nor will the cumulative impacts of this proposal, in combination with other past, present or reasonably foreseeable future actions, result in significant impacts. Therefore, I have concluded that an environmental impact statement is not required.

I have reviewed the environmental assessment and find it technically adequate and consideration has been given to all resource values.

  
James W. Dryden  
Field Manager

 9/28/98  
Date







## SPECIAL MITIGATION MEASURES IDENTIFIED THROUGH ANALYSIS

The following section summarizes the special mitigation measures outlined in Appendix A of the Draft PA/EAL. Additional mitigation measures identified in the Proposed PA/EAL have been incorporated into this section (see pages 7, 62, and 63).

### MEASURES THAT ADDRESS ALL ISSUES:

- The operator must notify BLM at least 3 days before beginning approved operations under a permit. This includes surface disturbance on private surface that is associated with approved Federal drilling permits and/or agreements.
- The operator must notify BLM at least 24 hours before conducting a well or allow BLM the opportunity to witness critical well operations.

### MEASURES THAT ADDRESS PRIMARILY WATER QUALITY AND PUBLIC HEALTH/SAFETY ISSUES:

- Operators must use best management practices during construction activities. This would require the use of sediment barriers, silt and silt/sand traps at construction sites, grading, planning and scheduling in accordance with best construction practices.
- Operators must develop and implement a Spill Prevention and Control Plan (SPCC) plan with BLM and COE Moapa Creek Lake Project Manager.
- Only drilling fluids, drilling muds, drilling fluids, muds, cement, cement slurry, and other fluids approved for use in drilling operations would be permitted to be placed in the waste pit.
- Spill prevention measures must be implemented by a State approved handler and disposed of in a State approved facility as needed to maintain at least a two foot (61 cm) depth of water in the waste pit. The waste pit must be sealed with a plug (see Appendix A for details) and the area of the pit filled with soil.
- Mud and fluids must be contained above the annual high water table level or disposed by another method approved by the BLM, COE, and the public health agency.
- The waste pit must be sealed with a plug and the area of the pit filled with soil. The waste pit must be sealed with a plug and the area of the pit filled with soil.



APPENDIX A  
SPECIAL INVESTIGATION MEASURES



## **SPECIAL MITIGATION MEASURES IDENTIFIED THROUGH ANALYSIS**

The following section reproduces the special mitigation measures outlined in Appendix A of the Draft PA/EA. Additional mitigation measures identified in the Proposed PA/EA have been incorporated into this section (see pages 7, 62, and 63).

### **MEASURES THAT ADDRESS ALL ISSUES:**

- The operator must notify BLM at least 3 days before beginning approved operations under a permit. This includes surface disturbance on private surface that is associated with approved Federal drilling permits and/or agreements.
- The operator must notify BLM at least 24 hours before spudding a well to allow BLM the opportunity to witness critical well operations.

### **MEASURES THAT ADDRESS PRIMARILY WATER QUALITY AND PUBLIC HEALTH/SAFETY ISSUES:**

- Operators must use best management practices during construction activities. This would require the use of sediment barriers, mulch and stockpile covers at construction sites; grading, planting and mulching immediately after any construction is completed.
- Operators must file copy of Spill Prevention, Control and Countermeasure (SPCC) plans with BLM and COE Mosquito Creek Lake Project Manager.
- Only drilling muds, drilling additives, drilling fluids, cuttings, cementing materials, native soils, and/or approved pit solidifying materials would be permitted to be placed in the reserve pit.
- Reserve/working pit fluids must be removed by a State approved hauler and disposed of in a State approved facility as needed to maintain at least a two foot freeboard (i.e. the space between the top of the fluids and the top of the pit dike).
- Muds and cuttings must be encapsulated above the annual high water table level, or disposed by another method approved by the BLM, ODNR, and/or private surface owner.
- The rat and/or mouse hole must be liquid-tight and constructed of steel pipe with a welded basal plate or bull plug. The annulus should be sealed with bentonite to prevent backside loss of brine or drilling fluids.



## SPECIAL MITIGATION MEASURES INCORPORATED THROUGH ANALYSIS

The following section reproduces the special mitigation measures outlined in Appendix A of the Final EIS. Additional mitigation measures identified in the Proposed Plan have been incorporated into this section (see pages 7, 62, and 63).

### MEASURES THAT ADDRESS ALL ISSUES

- The operator must notify BLM at least 3 days before beginning approved operations under a permit. This includes surface disturbance to private surface that is associated with approved Federal drilling permits and/or agreements.
- The operator must notify BLM at least 24 hours before speeding a well to allow BLM the opportunity to witness critical well operations.

### MEASURES THAT ADDRESS PRIMARILY WATER QUALITY AND PUBLIC HEALTH/SAFETY ISSUES

- Operations must use best management practices during construction activities. This would include the use of sediment barriers, mulch, and stockpile covers at construction sites during drilling, grading, and mulching immediately after any construction is completed.
- Operators must file a copy of their Prevention Control and Contingency Plan with BLM and ODE. Operators must file the Plan with BLM and ODE immediately after any construction is completed.
- The drilling mud, drilling additives, drilling fluids, cuttings, cementing, and/or other materials used in drilling operations must be stored in a secure container and disposed of in a secure approved facility as needed to maintain at least a two foot headspace in the space between the top of the fluids and the top of the pit (see figure).
- Drilling fluids must be removed by a State approved handler and disposed of in a State approved facility as needed to maintain at least a two foot headspace in the space between the top of the fluids and the top of the pit (see figure).
- Kicks and blowouts must be contained above the annual high water table level, or disposed by another method approved by the BLM, ODE, and/or private surface owner.
- The pit bottom must be sealed tight and constructed of steel pipe with a welded base plate or bull plate. The annulus should be sealed with cement to prevent backside loss of fluid or drilling fluids.



- The cellar shall be lined in a manner that collects and channels all fluids that accumulate beneath the rig substructure to the reserve pit.
- A continuous spill prevention apron should extend from the cellar, beneath the discharge line, to the reserve pit. The lined trough should have sufficient slope to enable all overflow from the cellar to drain into the reserve pit.
- Reserve pits should be excavated in native ground. If this is not possible, at least 50% of the reserve pit should be constructed below original ground level to prevent failure of the pit dike.
- The bottom and sides of all pits shall be graded and free of objects which could perforate the liner. If it is impractical to remove all objects which could puncture a liner, the base of the pit should be padded with straw, sand, clay, geotextile fabric, or other material capable of preventing damage to the liner. Side walls should be covered with a cellotex, or other similar material, to preserve liner integrity.
- If the location has sufficient size, pit side slopes should be at least twenty degrees out of vertical to prevent slumping of side walls.
- All reserve/working pits should be lined with a single piece liner that meets or exceeds the following standards:

|                        | Tensile Strength/Elongation                                                                                           |                |
|------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------|
| Non-reinforced Liners  | ASTM D 882-83                                                                                                         | 1550 PSI, 300% |
| Reinforced Liners      | ASTM D 882-83                                                                                                         | 1500 PSI, 10%  |
| Puncture Resistance    | ASTM 2582-67                                                                                                          | 40 lbs. force  |
| Hydrostatic Resistance | ASTM D 751-A-31 or<br>FTMS 191-5512                                                                                   | 50 lbs.        |
| Seam Strength          | Meet or exceed parent material properties for factory seams and 80% for field seams for the aforementioned standards. |                |

- If permeable sand and/or gravel deposits or fractured bedrock is encountered during excavation of the drilling pit, the owner shall spray apply a bentonite slurry to the pit base and sidewalls prior to emplacing the synthetic liner.
- The liner apron shall be secured around the berm in a manner which would prevent slumping of the liner below fluid level prior to pit closure.
- The liner shall be installed with sufficient slack to prevent tearing of the liner



The collar shall be lined in a manner that allows and channels all fluids that accumulate beneath the ice construction to the exterior pit.

A concrete or steel partition wall should extend from the collar, beneath the ice barrier, into the interior pit. The wall should extend from the collar along the entire length of the pit to prevent fluids from the collar from the exterior pit.

However, this should be excavated in a manner that, if this is not possible, at least 50% of the exterior pit should be excavated below original ground level to prevent failure of the ice barrier.

The bottom and sides of all pits shall be graded and free of objects which could penetrate the liner. It is important to remove all objects which could penetrate the liner, the use of the pit should be graded with stone, sand, clay, gravel, or other material capable of preventing damage to the liner. The walls should be covered with a barrier, or other similar material, to prevent fluid leakage.

If the location has sufficient area, the side slopes should be at least twenty degrees out of vertical to prevent slumping of side walls.

All excavating pits should be lined with a single piece liner that meets or exceeds the following standards:

| Liner Properties                                                                                                    |               |                  |
|---------------------------------------------------------------------------------------------------------------------|---------------|------------------|
| Minimum Thickness                                                                                                   | ASTM D 681-83 | 1520 PSI, 30 mil |
| Minimum Tensile                                                                                                     | ASTM D 681-83 | 1500 PSI, 10 mil |
| Minimum Elongation                                                                                                  | ASTM D 681-83 | 40% Elongation   |
| Minimum Tear Resistance                                                                                             | ASTM D 681-83 | 50 lb            |
| Minimum Puncture Resistance                                                                                         | ASTM D 681-83 | 50 lb            |
| Note: A single piece liner material properties for factory seams and joints are listed in the referenced standards. |               |                  |

If portable sand and/or gravel deposits or fractured bedrock is encountered during excavation of the drilling pit, the owner shall apply a concrete slurry to the pit base and sidewalls prior to completing the synthetic liner.

The liner should be secured around the berm in a manner which would prevent slumping of the liner below flood level prior to pit closure.

The liner shall be installed with sufficient slack to prevent tearing of the liner.



when the pit is filled with cuttings and fluid.

- All discharge into the pit from drilling and completion operations must be performed in a manner that would prevent damage to the pit liner.
- If the liner is damaged, at no time should fluid be allowed to rise above a tear which would allow the escape of brine or oilfield waste.
- No hazardous substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) shall be used in the circulating medium when drilling through uncased zones containing potable water.
- Surface casing must be set at least 50 feet below the base of the underground source of drinking water and cemented back to surface either during the primary cement job or during remedial cementing.
- Tank batteries would be secured by fencing and locks to minimize the impact related to oil spills caused by vandalism.
- BLM would require the installation of pressure switches on all wells.
- Crude oil storage tanks shall be equipped with a pressure-vacuum thief hatch, vent-line valve, and plugs on other vent ports of the tank.
- Tank batteries be surrounded by an impervious dike capable of containing 200% of the total volume of the storage tanks in the battery.
- Only cuttings, drilling fluids, native soils, cementing materials and/or approved pit solidification materials may be placed in reserve pit(s). Non exempt, exploration and completion wastes, as defined by U.S. Environmental Protection Agency's regulatory determination (53 FR 25453-25454) should be segregated from exempt wastes. All non-exempt wastes shall be disposed in accordance with Ohio Environmental Protection Agency (OEPA) regulations and guidelines.
- No annular waste disposal is allowed.
- The operator will contain all fracturing fluids in steel tanks and haul them to an approved disposal site.
- Based on COE policy, BLM would not approve operations that involve installation of permanent above ground structures at or below the full-pool elevation of 904.0 feet. These structures include, but are not necessarily



where the pit is filled with sand and gravel.

All the water from the pit from drilling and pumping operations must be collected in a sump and pumped back to the pit.

If the pit is damaged, it must be filled with sand and gravel to the same level as the water level.

No person shall enter the pit unless authorized by the Environmental Protection Agency (EPA) and the Department of the Interior (DOI). The pit shall be used in the manner specified in the permit. The pit shall be used for the collection of water from drilling operations and for the storage of water.

Water shall be pumped from the pit to the surface at a rate of not less than 100 gallons per minute. The water shall be pumped to the surface through a pipe that is at least 6 inches in diameter. The water shall be pumped to the surface through a pipe that is at least 6 inches in diameter.

The water shall be pumped to the surface through a pipe that is at least 6 inches in diameter. The water shall be pumped to the surface through a pipe that is at least 6 inches in diameter.

BLM would require the installation of pressure switches on all wells.

Each oil storage tank shall be equipped with a pressure-relief valve that is set to open at a pressure of 100 psi. The valve shall be set to open at a pressure of 100 psi.

The pressure shall be maintained by an automatic pressure control system. The pressure shall be maintained by an automatic pressure control system.

Oil storage tanks shall be equipped with a pressure-relief valve that is set to open at a pressure of 100 psi. The valve shall be set to open at a pressure of 100 psi. The pressure shall be maintained by an automatic pressure control system. The pressure shall be maintained by an automatic pressure control system.

No water shall be pumped to the surface through a pipe that is less than 6 inches in diameter.

The operator will maintain all drilling fluids in steel tanks and haul them to an approved disposal site.

Based on DOI policy, BLM would not approve operations that involve the use of drilling fluids. The operator will maintain all drilling fluids in steel tanks and haul them to an approved disposal site.



limited to, wellhead and associated artificial lift equipment, tank batteries (oil and brine storage tanks, separators, meters) and gas compressors.

**Site specific requirements relating to the following measures would be developed on a case-by-case basis (addresses water quality and public health/safety issues):**

- Specific water well monitoring requirements would be developed at the time a well site is proposed. BLM would evaluate site specific information relative to fresh water aquifers in the area of a proposed oil and gas well, considering the relative depth of the aquifer, well construction specifications of adjacent water wells, and topography as it relates to the proposed site. Based on these criteria, BLM would select four wells to be sampled and tested. Samples shall be collected in approved containers and tested in laboratories using OEPA test methods, including appropriate quality assurance/quality control, and parameters would have errors not to exceed percentages defined by method and concentration. The tests would include, but not be limited to, testing for the presence of: carbonates and bicarbonates (mg/l); filtered sample for water soluble barium (filtered unpreserved sample) ( $\mu\text{g/l}$ ); calcium (mg/l); chloride (mg/l); magnesium (mg/l); potassium (mg/l); sodium (mg/l); sulfate (mg/l); and residue as total filterable residue (mg/l). Test results shall be filed with the BLM and ODNR, Groundwater Protection Section, and the township Zoning Inspector, if applicable.
- Reserve/working pits shall not be excavated into the water table. Steel tanks must be used in lieu of pits if high water table renders construction of adequate size drilling pits impractical. If steel tanks are used, they must be underlain by a plastic apron to capture any fluids that are not contained by the tank.
- If well pads and access roads are proposed to be partially located in floodplains and no alternative sites are available, the following would be considered:
  - a. put the well pad on a level area to avoid the use of fill;
  - b. grade the well pad to direct surface runoff and accidental spills away from the floodplain area;
  - c. shut-in the well during flooding of the well pad or access road;
  - d. and/or install remote shut-off devices for the well.
- Examples of sediment barriers that may be employed to control soil erosion and sedimentation at a particular well site include: the construction of an earthen berm (using the subsoil from the reserve pit excavation) around the perimeter of the well pad; or the construction of a shallow ditch around the well pad to collect runoff; or trapping sediment by placing filter fencing and/or hay bales around the well pad. One other site specific protective measure would include identification of the appropriate amount of vegetation to be removed from the site.







- Standard Army Mineral Lease Stipulation # 21 requires a 100 foot setback from intermittent streams and a 200 foot setback from perennial streams. This stipulation would apply to those streams that cross or are adjacent to Federal property. The need for additional setbacks between surface disturbance, oil and gas facilities and water bodies would be determined on a case-by-case.
- BLM could require segregation of all saline cuttings from reserve pits if warranted by site conditions.
- The fate of the pit cuttings and liner would remain a negotiable item to be addressed at the time specific proposals are received so that factors such as soil type, drainage patterns, distance to water wells, depth of water table, and alternate methods of pit closure and rehabilitation may be evaluated. Typical operations include encapsulation of the drill cuttings in the pit liner. Pit solidification would be considered on a case-by-case basis.

#### **MEASURES THAT ADDRESS SPECIAL STATUS SPECIES:**

**Site specific requirements relating to the following measures would be developed on a case-by-case basis:**

- Proposed well location and associated facilities would not be approved if within one-half mile of an active bald eagle nest.
- No surface occupancy would be permitted on or within one-half mile of an established bald eagle nesting territory.
- Within potential Indiana bat habitat, suitable maternity roost trees (cavities and/or exfoliating bark) would not be cut down if it is possible to avoid doing so. If such trees must be removed, they cannot be cut down between the period of April 15 through September 15. If potential roost trees are present and the time restriction is unacceptable, mist net surveys, or other surveys, should be conducted to determine if bats are present. If the survey determines that Indiana bats do not inhabit the area, the identified trees may be cut down during any time of year.
- If Gray birch is found on proposed development sites the lessee/operator would be required to avoid removal of the trees.
- If hobblebush is found on proposed development sites the lessee/operator would be required to avoid removal of hobblebush.
- Disturbances in massasauga habitat will be avoided or seasonal restrictions will



Standard Army Manual (SAM) Subsection 5.1 requires a 100 foot setback from permanent structures and a 200 foot setback from seasonal streams. This subsection would apply to those streams that cross or are adjacent to Federal property. The need for additional setbacks between surface disturbance, oil and gas facilities and water bodies would be determined on a case-by-case basis.

BLM could require reclamation of all surface cuttings from reserve pits if warranted by the conditions.

The fact of the pit cuttings and their would require a negotiable item to be addressed at the same specific purposes are received so that factors such as soil type, drainage patterns, distance to water wells, depth of water table, and vegetation within the pit closure and rehabilitation may be evaluated. Typical operations include excavation of the pit cuttings in the pit liner. Pit rehabilitation would be conducted on a case-by-case basis.

## MEASURES THAT ADDRESS SPECIAL STATUS SPECIES

The specific requirements related to the following measures would be developed on a case-by-case basis:

- Proposed well location and associated facilities would not be approved if within one-half mile of an active bald eagle nest.
- No surface occupancy would be permitted on or within one-half mile of an established bald eagle nesting territory.
- Within potential habitat for natural, subsurface nesting (cavities and/or existing holes) would not be cut down if it is possible to avoid doing so. If such trees must be removed, they cannot be cut down between the period of April 1 through September 15. If potential nest trees are present and the time restriction is unacceptable, must not survey, or other surveys, should be conducted to determine if nests are present. If the survey determines that habitat does not include the area, the identified trees may be cut down during any time of year.
- If Gray Birch is found on proposed development sites the landowner would be required to avoid removal of the trees.
- If Redstart is found on proposed development sites the landowner would be required to avoid removal of Redstart.
- Disturbance in nesting habitat will be avoided or seasonal restrictions will



be applied. Site inspections will be made to determine the potential for the presence of the massasauga or its habitat. If indicated, a survey would be required to document that the massasauga does not inhabit the area. If it is determined that the massasauga is present or potential habitat exists, surface disturbance will not be permitted from mid April through the end of October. Surface disturbance would also not be permitted if a site is identified as massasauga winter habitat.

**MEASURES THAT ADDRESS AESTHETICS, INCLUDING AIR QUALITY, AND NOISE. INDIRECTLY, THEY WOULD ALSO ADDRESS CONCERNS RELATING TO TRAFFIC/SAFETY CONCERNS:**

- BLM would not allow any well located adjacent to COE or ODNR developed recreation areas to be drilled, plugged back, or deepened during the time period beginning on Friday of the Memorial Day holiday week end through Monday of the Labor Day holiday week end.
- BLM would not allow well servicing operations or workover procedures to be conducted on any producing well between 10 p.m. and sunrise from Memorial Day to Labor Day.
- BLM would not allow any producing well located adjacent to COE or ODNR developed recreation areas to emit noise which, when measured at the nearest developed recreation area, exceeds 45 dB(A).
- Thief hatch covers on oil storage tanks would be kept in a locked down, latched position.
- No open burning of garbage or refuse is permitted at drill sites or other oil and gas facilities.
- With surface owner consent, all access roads must be properly graded and surfaced with gravel or paving material to prevent mud from getting to State, county, and township roads and to minimize dust from forming during the use of the access road.

**Site specific requirements relating to the following measures would be developed on a case-by-case basis (addresses aesthetics, including air quality, and noise):**

- Tank battery facilities would be evaluated on a case-by-case basis. If necessary, vent stacks on oil storage tanks would be fitted with activated charcoal filters. Such filters shall be cleaned or replaced as needed to adequately suppress odor.



be applied. The inspection will be made to determine the potential for the presence of the substance or its byproduct. If indicated, a survey would be required to determine the substance does not inhibit the use. If it is determined that the substance is present in potential health hazard, further inspection will not be permitted from April through the end of October. Further inspection would also not be permitted if a case is identified as the substance within the area.

## MEASURES THAT ADDRESS AESTHETICS INCLUDING AIR QUALITY, AND NOISE, INDIRECTLY, THAT WOULD ALSO ADDRESS CONDITIONS RELATING TO HABITABILITY CONCERNS

BLM would not allow any well located adjacent to COE or ODN developed resources to be drilled, plugged back or decommissioned during the time period beginning on Friday of the Memorial Day holiday week and through Monday of the Labor Day holiday week end.

BLM would not allow any well developing operations or wellbore operations to be conducted on any producing well between 10 p.m. and sunrise from Memorial Day to Labor Day.

BLM would not allow any producing well located adjacent to COE or ODN developed resources to be drilled, plugged back or decommissioned at the nearest developed resource area to such extent which would be considered at the nearest developed resource area and exceeds 45 dB(A).

That borehole casing or oil storage tanks would be kept in a locked down, locked position.

At any time of fatigue or failure is prohibited at all sites of oil and gas facilities.

When surface water present, all water shall be properly stored and contained with ground or having material to prevent mud flow going to State, county and township roads and to minimize dust from blowing during the use of the access road.

The specific requirements relating to the following measures would be developed as a case-by-case basis (addressing aesthetics, including air quality, and noise):

Task battery facilities would be evaluated as a case-by-case basis. If necessary, vent stacks on oil storage tanks would be fitted with activated charcoal filters. Such filters shall be cleaned or replaced as needed to adequately suppress odor.



- Proposed operations would be evaluated on a site specific basis to determine if dust suppression measures are necessary during construction to reduce or eliminate the impacts of fugitive dust on air quality. Dust suppression measures would be determined on a case-by-case basis (examples of measures - application of water, dust-suppressing chemicals, graveling of soils susceptible to wind erosion, etc.).
- The COE Standard Army Mineral Lease Stipulation # 14 requires a 200 foot setback from developed recreation areas. Additional distance setbacks between oil and gas operations and noise sensitive areas could be developed in site specific analyses.
- BLM may require special noise reduction measures for well drilling, completion and production operations proposed adjacent to noise sensitive areas including, but not limited to, residences or residential allotments, the Bazetta Township Park, the Lakeview Local School District property, the COE operations area or hiking trails on COE or State lands. BLM would conduct a site specific analysis to determine what noise reduction measures may be required. Noise impacts may be reduced by one or more of the following technological/engineering design features:
  - Require mufflers on engines on the drill rig (hospital or residential grade), natural gas run pump jack, and gas compressor;
  - Require orientation of exhaust pipes for engines on drill rig, pump jack, gas compressor away from noise recipients;
  - Require blooie line discharge pointed away from noise recipient;
  - Require electric motor vs. natural gas run engine on pump jack;
  - Require natural or artificial noise barriers during drilling, well testing, fracturing, and/or production (e.g. hang tarps between noise generator and noise recipient during drilling, bank up earth removed from reserve/working pits between noise generator and recipient);
  - Require use of vegetative screens to muffle sound between noise generator and recipient;
  - Require sound minimizing housing around gas compressors; and
  - Require compressor housing doors to be oriented away from noise recipient.
- Measures would be identified to reduce impacts to recreational and visual resources and include: requiring a distance buffer from residences and private or public recreational facilities; using vegetative buffers to screen the wellhead and production facilities; painting all production facilities to harmonize with natural surroundings; and appropriate noise and odor abatement. Well site locations may be restricted by the presence of recreational areas.



Exposure assessment would be evaluated on a site specific basis to determine if dust exposure assessment is necessary during construction to reduce or eliminate the impact of dust on its quality. Dust exposure assessment would be determined on a case-by-case basis (examples of measures application of water, dust-suppressing chemicals, watering of soils susceptible to wind erosion, etc.).

The COB Standard Army Military Base Superfund Site is located in 200 feet radius from developed residential areas. Additional distance setbacks between off and gas operations and noise sensitive areas could be developed in site specific analysis.

BMJ may require special noise reduction measures for well drilling, transportation and production operations proposed adjacent to noise sensitive areas including, but not limited to, (a) barriers or residential setbacks, the Bureau of Land Management (BLM) Local School District property, the COB. Operations are or future plans as COB or State lands. BLM would conduct a site specific analysis to determine what noise reduction measures may be required. Noise impacts may be reduced by one or more of the following methods: (a) sound barrier design features.

Report barriers on engines on the drill rig (residential or residential). Gravel material for run pump jack and gas compressor. Reduce vibration of exhaust pipes for engines on drill rig pump jack. Gas compressor away from noise recipient. Report barriers the exchange located away from noise recipient. Report barriers motor or natural gas run engine on pump jack. Report barriers on artificial noise barriers during drilling, well testing, fracturing, water production (e.g. bag tops between noise recipient and noise recipient during drilling, pump up earth, removed from test/reworking pits between noise recipient and recipient).

Report use of vegetative screens to muffle sound between noise recipient and recipient. Report sound containing housing around gas compressor and Report compressor housing doors to be located away from noise recipient.

Measures would be identified to reduce impacts to recreational and visual resources and include: requiring a distance buffer from residential and private or public recreational facilities; using vegetative buffers to screen the wellhead and production facilities; painting all production facilities to harmonize with natural surroundings; and appropriate color and odor abatement. Well site locations may be restricted by the presence of recreational areas.



## MEASURES THAT ADDRESS PUBLIC HEALTH AND SAFETY:

- A sign displaying the operator's name, well name, State permit number and 24 hour emergency number would be placed at both the wellhead and tank battery.
- The tank battery shall be placed on a minimum 5 inch bed of limestone and/or natural stone.
- The tank battery site, fence and surface equipment shall be made of non-corrosive material or painted with weather proof paint. These components shall be maintained throughout the life of the well.
- All wellhead, tank batteries and related production equipment shall be enclosed with a six foot high chain link fence with a locked gate, three strands of barbed wire at the top with a clearance of 4 feet from the limits of the equipment.
- Access roads shall be of sufficient width with turnarounds to allow ingress and egress for safety equipment.
- All access roads to the drill site or tank battery shall have a fence with a locked gate or cable that limits passage to operator's personnel, the land owner, the township Zoning Inspector, if applicable, and fire department. The gate and cable shall be locked and one key given to BLM, the township Zoning Inspector, if applicable, and the fire department.
- For new access roads, operators must notify all occupants within 200 feet of the well site access road that drilling activity would be commencing and provide an approximate time table for it. For an existing road, the operator must notify occupants inside the drilling unit.
- Access road shall be a minimum of 100 feet from the nearest residence building outside the drilling unit and a minimum of 50 feet from the nearest residence building within the drilling unit unless prior written consent of all property owners within the drilling unit has been obtained and submitted to BLM and the township Zoning Inspector, if applicable.
- The tank battery and related production equipment shall be located not less than 130 feet from any residence building outside the drilling unit, and not less than 100 feet from any residence building inside the drilling unit unless prior written consent of all residence building occupants within the drilling unit is obtained and submitted to BLM and the township Zoning Inspector, if applicable.
- Vibrations which are perceptible without the aid of an instrument shall not be



## MEASURES THAT ADDRESS PUBLIC HEALTH AND SAFETY:

- A sign displaying the operator's name, well name, State permit number and 24-hour emergency number shall be posted at both the wellhead and tank battery.
- The tank battery shall be placed on a minimum 2 inch bed of limestone rocks or natural stone.
- The tank battery, the fence and related production equipment shall be made of non-corrosive material or painted with weather paint. These components shall be maintained throughout the life of the well.
- All wellhead, tank battery and related production equipment shall be enclosed with a six foot high chain link fence with a locked gate. The outside of the fence at the top shall be a minimum of 4 feet from the inside of the equipment.
- Access roads shall be of sufficient width with turnarounds to allow ingress and egress for safety equipment.
- All access roads to the well site or tank battery shall have a fence with a locked gate or gate that limits passage to operator's personnel, the land owner, the township zoning inspector, if applicable, and the department. The gate and cable shall be locked and one key given to BLM, the township zoning inspector, if applicable, and the fire department.
- For new access roads, operation shall occur only at occupant within 200 feet of the well site. Access roads and drilling activity shall be restricted and provide an appropriate time table for it. For an existing road, the operator must notify occupants inside the drilling unit.
- A road shall be a minimum of 100 feet from the nearest residence, building outside the drilling unit and a minimum of 50 feet from the nearest residential building within the drilling unit unless prior written consent of all property owners within the drilling unit has been obtained and submitted to BLM and the township zoning inspector, if applicable.
- The tank battery and related production equipment shall be located not less than 100 feet from any residence building outside the drilling unit, and not less than 100 feet from any residence building inside the drilling unit unless prior written consent of all residential building occupants within the drilling unit is obtained and submitted to BLM and the township zoning inspector, if applicable.
- Violations which are punishable without the aid of an indictment shall not be



permitted beyond the drilling unit.

- For well sites near residential areas during drilling and well completion phase or later well workover operations:
  - Free liquids would be removed from pits within 7 days after the completion of drilling or well workover operations.
  - All unattended drilling pits for well sites located near residential areas would be fenced.
  - All pits would be closed within 14 days after drilling or subsequent well workover operations cease.

**Site specific requirements relating to the following measure would be developed on a case-by-case basis (addresses public health and safety):**

- BLM would evaluate the need for warning signs near access road entry during construction and drilling operations.

#### **MEASURES THAT ADDRESS CULTURAL RESOURCES:**

**Site specific requirements relating to the following measure would be developed on a case-by-case basis:**

- The need for cultural resources surveys would be determined on a site specific basis. Existing information indicates that surveys would likely be required prior to any surface disturbing activities.



permitted beyond the drilling unit.

For well sites near residential areas during drilling and well completion phase or later well workover operations:  
For jobs which would be removed from this within 7 days after the completion of drilling or well workover operations:  
All unwanted drilling gas for well sites located near residential areas would be flared.  
All gas would be closed within 14 days after drilling or subsequent well workover operations cease.

Site specific requirements relating to the following measures would be developed on a case-by-case basis (addressing public health and safety):

Flare would maintain the level for burning when near access road during construction and drilling operations.

#### MEASURES THAT ADDRESS CULTURAL RESOURCES

Site specific requirements relating to the following measures would be developed on a case-by-case basis:

The need for cultural resource surveys would be determined on a site specific basis. Existing information indicates that surveys would likely be required prior to any surface disturbing activities.





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Biological Service  
200 American Parkway, Suite 11  
Franklin, Ohio 43061-4172

RECEIVED

APR 24 1998

BUREAU OF LAND MANAGEMENT  
WILDLIFE DISTRICT OFFICE

April 24, 1998

James W. Dryden, Field Manager  
Bureau of Land Management  
P.O. Box 617  
Milwaukie, OR 97131

Dear Mr. Dryden:

The attached is a copy of the report on the "Morgans Creek Lake Draft Planning Analysis/Environmental Assessment." We have reviewed the report and are pleased that it adequately addresses the concerns we previously expressed in this and other comments, including directly listed threatened and endangered species. There will be no further analysis of listed and related sensitive life and the draft project environmental impact statement will be filed for review with the public and approved for and signed by the project manager.

If you have any questions or need further assistance in this matter please contact Mr. Ed Kury at our office at 614-499-0911 ext. 14.

**APPENDIX B**  
**PUBLIC COMMENT LETTERS**

Edward A. Munn  
Acting Supervisor



APPENDIX B  
PUBLIC COMMENT LETTERS





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services  
6950 Americana Parkway, Suite H  
Reynoldsburg, Ohio 43068-4132

RECEIVED

APR 29 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

April 24, 1998

James W. Dryden, Field Manager  
Bureau of Land Management  
P.O. Box 631  
Milwaukee, WI 53201

Dear Mr. Dryden:

This responds to your request for comments on the "Mosquito Creek Lake Draft Planning Analysis/Environmental Assessment." We have reviewed the subject document and are pleased that it adequately addresses our concerns over possible project impacts to fish and wildlife resources, including federally listed threatened and endangered species. There will be no surface occupancy of federal land around Mosquito Lake and this should prevent environmental impacts of gas well drilling from affecting public lands and associated fish and wildlife habitat.

If we may answer questions or be of further assistance in this matter please contact Mr. Bill Kurey of this office at 614-469-6923 ext. 14.

Sincerely,

*Kenneth A. Multerer*  
Kenneth A. Multerer  
Acting Supervisor

Sincerely,

*William C. Novakovich*  
William C. Novakovich  
Chief of Fire





United States Department of the Interior  
RECEIVED

APR 29 1968

BUREAU OF LAND MANAGEMENT  
WILMINGTON DISTRICT OFFICE

FISH AND WILDLIFE SERVICE  
Bureau of Land Management  
1200 American Parkway, Suite 11  
Washington, D.C. 20004-4132

April 24, 1968

James W. Dwyer, Field Manager  
Bureau of Land Management  
P.O. Box 501  
Wilmington, VT 05301

Dear Mr. Dwyer:

The purpose of this letter is to inform you of the results of the recent survey of the "Deer Creek" area. The survey was conducted by the Bureau of Land Management and the Fish and Wildlife Service. The results of the survey are as follows: The area is a good habitat for deer and other wildlife. There are no significant changes in the area's condition. The area is a good habitat for deer and other wildlife. There are no significant changes in the area's condition. The area is a good habitat for deer and other wildlife. There are no significant changes in the area's condition.

Sincerely,  
*James W. Dwyer*  
James W. Dwyer  
Acting Director



# Cortland City Fire Department

194 Lattin Street  
Cortland, Ohio 44410

05-08-98

To whom it may concern,

While reviewing the Mosquito Creek Lake Draft Planning Analysis/Environmental Assessment that was sent to our Department, I have noted several concerns. I would like to express these concerns to you.

1. On page 4-73 under "Impact To Local Emergency Response Capability" It states "it is not anticipated that the additional wells would require increases in local emergency response capability" and "these teams are fully trained and have the necessary supplies and equipment available for emergency response".

I can not speak for the other departments or teams mentioned, I feel I must speak out on the above statement so that a false sense of security is not given.

While the Cortland City Fire Department has responded to and handled emergencies in the past dealing with gas and oil wells, we have never been placed in a scenario where the by product of, or a spill at a well site could directly contaminate a community's drinking water. With this in mind I must inform you that we do not have the equipment or expertise to handle such an incident.

2. Even though the City of Cortland does not border the State property in many locations, we do have mutual aid agreements with the departments that do. If we are to respond to an incident in our neighboring communities, our rolls will be limited due to lack of equipment if the incident involved contamination of the lake.

Sincerely,

*William C. Novakovich*

William C. Novakovich  
Chief of Fire



# Corland City Fire Department

1841 Larkin Street  
Corland, Ohio 44020

02-08-90

To whom it may concern,

While reviewing the Hazardous Waste Site Remediation  
and Environmental Assessment that was sent to the Department, I have noted  
several concerns. I would like to express these concerns to you.

1. On page 4-73 under "Impact To Local Emergency Response Capability," it states "It  
is not anticipated that the additional waste would require increases in local emergency  
response capability," and "these items have been tested and have the necessary  
supplies and equipment available for emergency response."

I can not agree for the other department or teams mentioned. I feel I must  
warn you, on the above statement as that a large volume of waste is not given.

While the Corland City Fire Department has responded to and handled  
emergencies in the past dealing with gas and oil waste, we have never been faced with  
a situation where the by product of a spill is a well site could directly contaminate a  
community's drinking water. With this in mind, I must inform you that we do not have  
the equipment or resources to handle such an incident.

2. Even though the City of Corland does not border the State property in many  
locations, we do have mutual agreements with the departments that do. If we are to  
respond to an incident in our neighboring communities, our resources will be limited due to  
lack of equipment if the incident involved contamination of the lake.

Sincerely,

William C. Novakovich

William C. Novakovich  
Chief of Fire



JAMES A. TRAFICANT, JR.  
17TH DISTRICT, OHIO

COMMITTEE:  
TRANSPORTATION AND  
INFRASTRUCTURE  
SUBCOMMITTEES:

RANKING DEMOCRAT: PUBLIC BUILDINGS  
AND ECONOMIC DEVELOPMENT

AVIATION

COMMITTEE:  
SCIENCE

SUBCOMMITTEE:  
SPACE

## Congress of the United States

House of Representatives

Washington, DC 20515-3517

May 12, 1998

2446 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515  
(202) 225-5261

125 MARKET STREET  
ROOM 311  
YOUNGSTOWN, OH 44503  
(330) 743-1914

5555 YOUNGSTOWN-WARREN ROAD  
SUITE 503  
NILES, OH 44446  
(330) 652-5649

109 WEST 3RD STREET  
EAST LIVERPOOL, OH 43920  
(330) 385-5921

Mr. Carson Culp, Jr.  
State Director  
Bureau of Land Management  
7450 Boston Boulevard  
Springfield, VA 22153

Dear Mr. Culp:

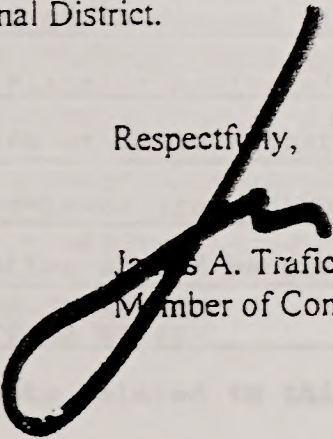
I am writing to follow-up on the correspondence I had in 1996 with the U.S. Department of the Interior Bureau of Land Management regarding the proposal to drill for oil and gas beneath Mosquito Creek Lake, in Trumbull County, Ohio. I have enclosed the letter for your convenience.

I appreciate the continued involvement offered to me and my staff throughout the Mosquito Creek Lake Draft Planning Analysis/Environmental Assessment (PA/EA) process. It has always been my position to reserve comment until the PA/EA has been completed, and I had an opportunity to review the document.

I have carefully considered the assessment, and the proposed safety procedures to contain leaks, spills, and overflows. After such consideration, I am compelled to join many of my constituents in opposition to any drilling on private land around Mosquito Creek Lake. Quite frankly, given the amount of natural resources in this country, the benefits of extracting gas and oil from the wells do not outweigh the potential damage that could be done to the environment, water quality, and overall quality of life for area residents.

Please be assured that I will continue to work with all interested parties. However, I cannot in good conscience support the proposed drilling. It is not in the best interest of the constituents in my Congressional District.

Respectfully,

  
James A. Traficant, Jr.  
Member of Congress

JAT/bwc

Enclosures

C: Colonel Stephen B. Massey  
Army Corps of Engineers







RECEIVED

MAY 14 1998

# COMMENTS

Mosquito Creek Lake Draft  
Planning Analysis/Environmental Assessment

## NAME AND MAILING ADDRESS:

Thomas F. Holloway, P.E., Sanitary Engineer  
Trumbull County Sanitary Engineer's Department  
7500 Anderson Avenue, N.E.  
Warren, Ohio 44484

PHONE: (330)675-2775 Extension 103

NAME OF ORGANIZATION OR AGENCY and  
YOUR POSITION, if applicable:

See Above

PHONE: Same as above

Whom are you representing?

☐ Self ☐ Organization  
☐ Other ☒ Federal, State or  
Local Govt. Agency

How did you hear of this meeting?

☐ Newspaper ☐ Radio  
☐ Television  
☐ Dear Reader letter  
☒ Other (specify)  
Public Notice

Are you presently on our mailing list?

☐ yes ☐ no ☒ don't know

If not, would you like receive future mailings  
relating to the proposed planning  
analysis/environmental assessment and final  
decision?

☒ yes ☐ no

If you have comments on the Mosquito Creek Lake Draft Planning Analysis Environmental  
Assessment, please write them below. Does the analysis address all of the issues  
adequately? If not, please identify where and why additional analysis is deemed  
necessary.

Attached are the water quality standards from Ohio Administrative Statutes Rule 3745-1-07  
that should be also reviewed and addressed with regard to Section 3.5 Water Resources  
of the Mosquito Lake Draft Planning Analysis/Environmental Assessment. These standards  
indicated there are limitation or impacts that exists (See highlighted ones).

These standards should be reviewed against what may be expected to occur from oil and  
gas development. Consideration should be given to air contaminant's (VOC's) possibly  
ending up in surface and ground water.

Do you have any other comments related to this proposal?

5/98







To: Bureau of Land management  
Field Manager  
P.O. Box 631  
Milwaukee, WI 53201-0631

RECEIVED

MAY 18 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

May 15, 1998

Dear Field Manager:

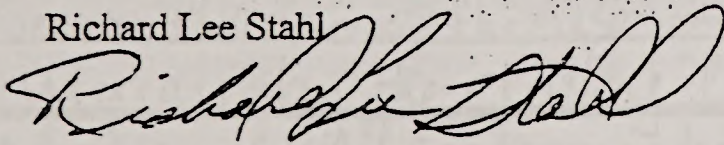
At the meeting at Cortland Elementary School on May 12<sup>th</sup>, a photo of an oil well fire was shown. I was the fire Chief and Officer-in-charge at that fire. An investigation after the fire showed that the well, associated equipment and dike met existing codes governing oil and gas wells. But, you must understand that those codes were and still are minimum standards. The investigation found that the crude oil in the storage tank ran out through a valve in the base of the tank and was ignited when it came in contact with the tank heater. This valve is used to allow water in the bottom of the tank to be removed from the tank before the crude oil is pumped out. Even though the well was inspected regularly, the dike was completely filled with crude oil when fire fighting equipment arrived.

Our main problem in fighting and extinguishing this well fire was the fact that the dike around the well was constructed to hold only the maximum amount of product that could have been contained in the storage tank at that well. In order to extinguish the fire, foam had to be blanketed across surface of the dike and associated metal equipment inside the dike. The metal equipment first had to be cooled down with water spray so as not to break down the foam solution and re-ignite the crude oil that was contained in the dike. When the water spray was played on the metal equipment inside the dike, the water went to the bottom of the dike and forced the crude oil over the top of the dike. This caused flaming crude oil to run in all directions. Fire crews had to wait until enough crude oil inside the dike burned in order to be able to cool the metal equipment. After cooling the metal sufficiently, foam solution would be blanketed over the surface of the dike to extinguish the fire while water spray continued to cool the metal.

My comment here is that even though all existing codes were met in construction of the well, there was a spill and a fire. The fire could not be extinguished because this would cause crude oil to spill out of the dike and could have caused additional fires or contamination. Now, what would happen if a well dike was filled with crude oil and one of our frequent rain storms caused crude oil to spill out and contaminate the water supply in Mosquito Lake?

In your presentation, it was indicated that present codes and standards for oil and gas wells were adequate. I feel that since these proposed wells border a community water supply, present standards are inadequate and should be studied closely and updated to make sure that no accidents happen. And if codes cannot be updated to properly ensure safety of the community water supply, then no leases for oil or gas wells should be let.

Richard Lee Stahl









Mosquito Creek Lake Draft  
Planning Analysis/Environmental Assessment

RECEIVED  
MAY 26 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

If you have comments on the Mosquito Creek Lake Draft Planning Analysis Environmental Assessment, please write them below. Does the analysis address all of the issues adequately? If not, please identify where and why additional analysis is deemed necessary.

The EA/PA does not adequately address the all the issues. The EA/PA clearly minimizes the risk of Groundwell contamination, air quality and noise pollution in having a total disregard for the people in the demographic area affected. You used outdated and inaccurate statistics in preparing the Report to skew the outcome to the desired not effect. The BLM could never be counted on to objectively assess the environmental impact on the people affected.

Do you have any other comments related to this proposal?

The practices of the BLM should be reviewed and revised. Senate Committee investigations should be held. Absolutely no human regard. Who is getting a promotion upon completion of this project? Does not address the use of or prohibition of radioactive materials by the drilline companies. Air quality / noise pollution and ground well contamination ARE Public Safety Risks<sup>5/98</sup> not just small risk of accident. PEOPLE live here.







Mosquito Creek Lake Draft  
Planning Analysis/Environmental Assessment

JANET YOHMAN  
JUDY STRAWN  
386 BRISTOL CHAMPION TOWNLINE RD.  
WARREN, OHIO 44481

OUR PRIMARY CONCERN IS THE WATER WE GET FROM OUR WELLS. NOT ONLY FOR OUR OWN USE BUT ALSO FOR OUR RENTAL PROPERTIES THAT ADJOIN STATE PROPERTY.



# COMMENTS

Wetlands Cross List Draft  
Planning Analysis/Environmental Assessment

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>NAME AND MAILING ADDRESS:<br/>                 380 Division-Capitol Building<br/>                 Phoenix, AZ 85001<br/>                 Janet Herman<br/>                 1004 Street</p>                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                         |
| <p>NAME OF ORGANIZATION OR AGENCY AND<br/>                 YOUR POSITION, if applicable:</p>                                                                                                                                                                                                                                                                                                                                                                                        | <p>Phone: (602) 251-7121 to 632-1274</p>                                                                                                                                                                                                                                                                                                                                |
| <p>Are you presently on our mailing list?<br/>                 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/></p> <p>If not, would you like to receive future mailings<br/>                 relating to the proposed planning<br/>                 analysis/environmental assessment and final<br/>                 decision?<br/>                 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> | <p>How did you hear of this meeting?<br/>                 Newspaper <input type="checkbox"/> Radio <input type="checkbox"/><br/>                 Television <input type="checkbox"/><br/>                 Direct Mailout Letter <input type="checkbox"/><br/>                 Other (specify) <input checked="" type="checkbox"/> Personal <input type="checkbox"/></p> |
| <p>If you have comments on the Wetlands Cross List Draft Planning Analysis/Environmental<br/>                 Assessment, please write them below. Does the analysis address all of the issues<br/>                 adequately? If not, please identify where and why additional analysis is needed.</p>                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                         |
| <p>Do you have any other comments related to this proposal?<br/>                 The proposed Cross List is the worst we've ever seen. Not only<br/>                 has the map and the list been poorly prepared, but the<br/>                 entire process is flawed.</p>                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                         |



## COMMENTS

### Mosquito Creek Lake Draft Planning Analysis/Environmental Assessment

NAME AND MAILING ADDRESS:

MICHAEL KERIOTIS  
2781 HOFFMAN CIR NE  
Warren OH 44483

PHONE:

NAME OF ORGANIZATION OR AGENCY and  
YOUR POSITION, if applicable:

Mayfair Landromats

PHONE: 330 372 2342

Whom are you representing?

☒ Self ☒ Organization/BUSINESS  
☐ Other ☐ Federal, State or  
Local Govt. Agency

How did you hear of this meeting?

☒ Newspaper ☐ Radio  
☐ Television  
☐ Dear Reader letter  
☐ Other (specify)  
\_\_\_\_\_

Are you presently on our mailing list?

☒ yes ☐ no ☐ don't know

If not, would you like receive future mailings  
relating to the proposed planning  
analysis/environmental assessment and final  
decision?

☐ yes ☐ no

If you have comments on the Mosquito Creek Lake Draft Planning Analysis Environmental  
Assessment, please write them below. Does the analysis address all of the issues  
adequately? If not, please identify where and why additional analysis is deemed  
necessary.

The Bureau of Land Mgmt. in Milwaukee  
although very hard working land conservation  
agency have as much as stable as residents  
and businesses in Tremont County, OH/O  
when it comes to water quality and safety.

Thank - You -

Do you have any other comments related to this proposal?

YES. As taxpayer & business owner I expect  
local govt (and director(s) (Hicks et al.) to file  
all and any injunctions to halt these risky  
business ventures. THANK YOU



**CONSENT**  
**Responsible Party**  
**Consent to Release Information**

NAME AND ADDRESS: **Michael Kikulis**  
**5781 Hoffman Ave**  
**Dayton OH 45424**

|                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>NAME OF ORGANIZATION OR AGENT AND YOUR POSITION: <b>May for Landmark</b></p> <p>PHONE: <b>330 374 3342</b></p>                                                                                                                                                  | <p>NAME AND ADDRESS OF REPRESENTATIVE: <b>Michael Kikulis</b></p> <p>PHONE: <b>5781 Hoffman Ave</b></p>                                                                                                                                                                                                                                                                               |
| <p>HOW DO YOU WANT TO BE NOTIFIED?</p> <p><input checked="" type="checkbox"/> Newspaper <input type="checkbox"/> Radio</p> <p><input type="checkbox"/> Television</p> <p><input type="checkbox"/> Direct Mail</p> <p><input type="checkbox"/> Other (specify):</p> | <p>ARE YOU CURRENTLY ON OUR MAILING LIST?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p>IF NOT, WOULD YOU LIKE TO RECEIVE FUTURE MAILINGS RELATED TO THE PROJECTS DESCRIBED ANALYTICAL/ENVIRONMENTAL INFORMATION AND FINDINGS?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |

If you have comments on the project, please write them below. Please include your address at the bottom. If not, please identify where and how additional analysis is needed.

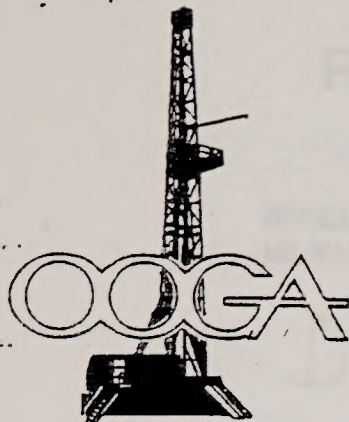
**The Pattern of Land Mark in Michigan**  
 of about 1000 land + water area covered  
 covering land to water at 1000 ft of elevation  
 and boundaries in Township 10 North, Range 10 West  
 this is level to water elevation and safety.

Thank you - 1/14

Do you have any other comments related to this project?

**Yes. As discussed at meeting over 1 hour**  
**land area in Township 10 North, Range 10 West**  
**all land area within 1 mile of this**  
**boundary is water.**





## Ohio Oil & Gas Association

1718 Columbus Rd., S.W. • P.O. Box 535 • Granville, Ohio 43023-0535  
740-587-0444 • Fax: 740-587-0446 • E-Mail: ooga@nextek.net

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JUN - 3 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

1998

### OFFICERS

\*JOHN C. MASON  
President

\*STEVEN L. GROSE  
Vice President

\*JOHN W. STRAKER, JR.  
Treasurer

\*THOMAS E. STEWART  
Executive Vice President

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LEO ALTIER  
DANIEL L. ARNOLD  
\*JAMES S. ASLANIOES  
\*JEFF BAKER  
TIMOTHY J. BATTAGLIA  
HENRY S. BELDEN, IV  
WILLIAM BENNETT  
CLIFTON A. BROWN  
JAMES H. CAMERON  
DAVID J. EIGEL  
J. RICHARD EMENS  
BARRY FERGUSON  
JOHN L. FORMAN  
CHRISTIAN S. GERIG  
FRANK W. GONZALEZ  
ALAN W. JONES  
JIM (ACE) KILBARGER  
\*WILLIAM G. KINNEY  
ROBERT H. LAMPTON  
JAMES R. LEE  
MARK S. LYTLE  
PATRICK J. MCGONAGLE  
MICHAEL P. MCKEE  
JACK K. MILLER  
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\*ERIC SMITH  
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### HONORARY TRUSTEES

DAVID H. BELL  
\*R. GENE BRASEL  
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JAMES C. MORGAN, II  
JAMES J. MORGAN  
JERRY C. OLDS  
GRAHAM R. ROBB  
R. J. SCHWARZ  
BERMAN J. SHAFER  
GUY F. SITLER, JR.  
E.A. (MIKE) SMITH  
J.W. STRAKER  
OON VERNAU  
JOHN C. WRIGHT

\*Executive Committee

June 1, 1998

Mr. Chris Hanson, Assistant District Manager  
Bureau of Land Management  
P.O. Box 631  
Milwaukee, WI 53201

### RE: MOSQUITO CREEK LAKE DRAFT PLANNING ANALYSIS/ ENVIRONMENTAL ASSESSMENT

Dear Chris:

The Ohio Oil and Gas Association ("OOGA") applauds the effort of the BLM in fulfilling their fiduciary responsibilities involved in the completion of the above captioned analysis and assessment.

Upon review of the documents, OOGA finds no substantial objections to the findings contained in the report.

We agree with your analysis and encourage the BLM to move forward with their lease sale.

Best regards,

OHIO OIL AND GAS ASSOCIATION

Thomas E. Stewart  
Executive Vice President

TES/rir



Ohio Oil & Gas Association  
1775 Chestnut St., 2nd Fl., Cincinnati, Ohio 45219-4212  
Telephone: (513) 521-1234 • Telex: 513123 • Cable: 513123



RECEIVED

JUN - 3 1978

BUREAU OF LAND MANAGEMENT  
NATURAL RESOURCES DIVISION

June 1, 1978

Mr. Gary Benson, Assistant District Manager  
Bureau of Land Management  
P.O. Box 511  
Milwaukee, WI 53201

RE: MOSQUITO CREEK LAND DRAFT PLANNING ANALYSIS  
ENVIRONMENTAL ASSESSMENT

Dear Sir:

The Ohio Oil and Gas Association ("OOGA") applauds the efforts of the BLM in carrying out its statutory responsibilities involved in the completion of the above referenced analysis and assessment.

Upon review of the document, OOGA finds no substantial objections to the findings contained in the report.

We hope with your efforts and encourage the BLM to move forward with this issue.

Very truly,

OHIO OIL AND GAS ASSOCIATION

*James E. Jones*

James E. Jones  
Executive Vice President

TEST

TO: DIRECTOR, BLM  
FROM: JAMES E. JONES, EXECUTIVE VICE PRESIDENT, OHIO OIL AND GAS ASSOCIATION  
SUBJECT: MOSQUITO CREEK LAND DRAFT PLANNING ANALYSIS, ENVIRONMENTAL ASSESSMENT  
DATE: JUNE 1, 1978  
RE: JUNE 1, 1978  
JES:j



RECEIVED

JUN - 3 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

Pete Perich  
Marketing Consultant

5-30-98

Dear Terry,

The Perich Well in Bazetta township is one of the first drilled. It is still in operation. Wells are closing + capping. Production is stopped during the summer. Trumbull County has wells on every farm. Mosquito Lake is our only source of water. After comparing the water supply of the industrial outlet of Mattoning River, Mosquito was our savior supply. To do the directional drilling + destroy our Counties water lifeline, would be a disaster to our health. When this proposal was first published, I couldn't believe that anyone would think of it or even approving such a threat to our families health. My neighbor in FLA. has a lot to do with well drilling + tells me "this would be a dangerous Venture." People in Wisconsin don't know about Trumbull County lifestyle, they shouldn't even authorize drilling thoughts. A close friend is a supervisor in Dept of Int in Wash DC. I'll be calling him.

Pete Perich  
retired

1968 Dodge St. N.W. • Warren Ohio 44485 Businessman  
+ PROPERTY Owner



RECEIVED  
JUN - 2 1961  
BUREAU OF LAND MANAGEMENT  
ALBUQUERQUE DISTRICT OFFICE  
Pete Perick  
Marketing Consultant

2-32-61

Dear Terry,

The Perick Well in Barroto township is one of the first drilled. It is still in operation. Wells are closing & ceasing production is stopped during the summer. Transim County has wells on every farm. Mesquite water is our only source of water. After comparing the water supply of the industrial district of Watson River, Mesquite was our water supply. To do the directional drilling & destroy our country water pipeline would be a disaster to our health. When this proposal was first published, I couldn't believe that anyone would think of it or even approving such a threat to our families health. My neighbor in the lot a lot to do with well drilling & tells me "this would be a dangerous venture". People in Wisconsin don't know about Transim County lifestyle, they should even understand drilling thoughts. A close friend is a supervisor in Dept of Int in Las Vegas. I'll be calling him.

Pete Perick



RECEIVED

JUN - 4 1998

May 22, 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

Dear Concerned Citizen/Interested Party:

Following receipt and incorporation of public comments on the Mosquito Creek Lake Draft Planning Analysis/Environmental Assessment (PA/EA), released April 10, 1998, the Bureau of Land Management (BLM) will prepare and release a Proposed PA/EA. In an effort to reduce printing and mailing costs, we are attempting to identify those entities who would like to receive a copy of the Proposed PA/EA. If you wish to continue to receive information on this project, including the Proposed PA/EA, please complete the information below and return this form to the BLM by July 1, 1998. Those parties returning this form will be ensured of receiving all future mailings related to this proposal. Thank you for your continued interest.

PLEASE PRINT

Name: DONALD WALDRON  
Affiliation (if applicable): \* RESIDENT  
ASSISTANT CHIEF TRUMBULL County HAZ/MAT  
ASSISTANT CHIEF BAZETTA FIRE DEPT  
Address: 3951 WESTLAKE DR.  
City: CORLAND Zip: 44410  
Phone (optional): 330 6385211

An addressed, postage paid envelope is enclosed for your use. If you would prefer to fax this information, the BLM fax number is (414) 297-4409. Information can also be provided by e-mail directed to tsaarela@es.blm.gov.

If there are any questions on this matter, please feel free to contact Terry Saarela at (414) 297-4437.

To Whom It May Concern:

THE TRUMBULL County HAZARDOUS MATERIALS TEAM  
HAS NEVER been consulted but according to  
your last mailing (THE PLAN) we were mentioned  
AS A Response Agency.



RECEIVED

JUN - 1 1998

BUREAU OF LAND MANAGEMENT  
NEWSPRINT DISTRICT OFFICE

May 11, 1998

Dear Concerned Citizen/Interested Party:

Following receipt and incorporation of public comments on the Mesquite Creek Lake Basin Planning Analysis/Environmental Assessment (PAEA), released April 10, 1998, the Bureau of Land Management (BLM) will prepare and release a proposed PAEA. In an effort to reduce printing and mailing costs, we are attempting to identify those readers who would like to receive a copy of the proposed PAEA. If you wish to continue to receive information on this project, including the proposed PAEA, please complete the information below and return this form to the BLM by July 1, 1998. Those parties returning this form will be entered in receiving all future mailings related to this proposal. Thank you for your continued interest.

PLEASE PRINT

Name: Thomas (Lance)  
Address: 12511 1st Street, Suite 111, Great Falls, VA 22064  
City: Great Falls  
State: VA  
Zip: 22064  
Phone (optional): 703-632-2111

An address, postage paid envelope is enclosed for your use. If you would prefer to fax this information, the BLM fax number is (434) 257-4409. Information can also be provided by e-mail directed to [taskforce@blm.gov](mailto:taskforce@blm.gov).

If there are any questions on this matter, please feel free to contact Terry Sanchez at (434) 257-4437.

To learn if any Concerned Citizen has been contacted and according to your past mailing (the form) we were mentioned as a response Agency.



James A Robinson  
5077 Pierce road  
Warren Ohio 44481  
United States of America

RECEIVED  
JUN - 8 1998  
BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

June 03, 1998

Bureau of Land Management  
Field Manager  
P.O.Box 631  
Milwaukee, WI 53201-0631  
Att Terry Saarela.

Mosquito Creek Lake Draft Planning Analysis/Environmental Assessment

MR. Saarela

I have ben a citizen of Trumbull county all my life.I have spent more time on the lake then at my own home. Due to the fact of the proposed drilling on the lake or should i say nearby and under.I feel its prudent that you know the feelings of my family and community.

First everyone is concerned about the Balled Eagles in the game reserve.The proposed pipeline is slated to run rite through these endangered anamels habitate.I also know first hand that the emergency response teams in the area are not equiped or trained in the manor needed with these wells just from the shear number of wells proposed. I also personally feel the same as Congressman James traficant in a letter he wrote to MR. Carson Culp to your director in Virginia.

With knowing first hand how the drilling process works,being associated with the business for seven years. I know that there is no way to drill a well without the introduction of some kind of petroleum product,crude or refined,into the envierment.THer is also a good chance that the lake itself possibly mite become contaminated with the same petroleum products.

I do not feel this is a good idea there is to much at stake.We are not hurting for these fossil fules to justify the drilling. The damage to the envierment and wildlife habitat is not worth the personal gain some of your peers would recive.Fortyone wells,fortyone chances for disaster to strick,fortyone resins to keep our children away from the lake.

Thankyou.  
James Robinson & Family.



RECEIVED

JUN - 6 1958

BUREAU OF LAND MANAGEMENT  
WASHINGTON, D. C. 20250

James A. Robinson  
2017 Pacific Road  
Denver, Colorado 80202  
United States of America

June 11, 1958

Director of Land Management  
Bureau of Land Management  
Washington, D. C. 20250  
Dear Sir:

Enclosed please find two copies of a letterhead memorandum.

Very truly,  
James A. Robinson

I have been a student of the United States since my life. I have spent much time on the land and I have learned a great deal about it. I have learned that the land is a precious resource and that it must be protected for the benefit of all. I have learned that the land is a source of life and that it must be protected for the benefit of all. I have learned that the land is a source of life and that it must be protected for the benefit of all.

I am writing you to tell you that I have been thinking about the land and about the people who live on it. I have been thinking about the land and about the people who live on it. I have been thinking about the land and about the people who live on it. I have been thinking about the land and about the people who live on it. I have been thinking about the land and about the people who live on it.

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Very truly,  
James A. Robinson





June 1, 1998

George V. Voinovich • Governor  
Donald C. Anderson • Director

Mr. James Dryden  
Field Manager  
U.S. Dept. of the Interior  
Bureau of Land Management  
Milwaukee Field Office  
P.O. Box 631  
Milwaukee, Wisconsin 53201

RECEIVED

JUN 10 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

RE: Mosquito Creek Lake Draft Planning Analysis/Environmental Assessment

Dear Mr. Dryden:

The Ohio Department of Natural Resources (ODNR) has completed a review of above referenced project located in Trumbull County, Ohio. ODNR offers the following comments:

The Division of Natural Areas and Preserves reviewed the Mosquito Creek Lake EA for rare species, special nature features and significant natural areas. The numbers and letters on the list below correspond to the areas marked in red and blue on the accompanying maps. A dot means an exact location, a triangle a general location within a square mile and a square a general location within greater than a square mile.

#### BRISTOLVILLE QUAD

1. *Circus cyaneus* - Northern Harrier, endangered
2. *Sistrurus catenatus* - Eastern Massasauga, endangered
3. Great Blue Heron Colony (breeding animal concentration)
4. *Betula populifolia* - Gray Birch, potentially threatened
5. *Rallus limicola* - Virginia Rail, special interest
6. *Erethizon dorsatum* - Porcupine, extirpated
7. *Haliaeetus leucocephalus* - Bald Eagle, state endangered, federal threatened
8. *Sistrurus catenatus* - Eastern Massasauga, endangered
9. *Carex lupuliformis* - False Hop Sedge, threatened
10. *Viburnum alnifolium* - Hobblebush, potentially threatened

#### CHAMPION QUAD

- A. Mosquito Creek Floodplain (significant natural area)
1. Maple-Ash-Oak Swamp Plant Community
  2. Great Blue Heron Colony (breeding animal concentration)
  3. *Hirundo pyrrhonota* - Cliff Swallow (colonial nester, constitutes a breeding animal concentration)
  4. *Betula populifolia* - Gray Birch, potentially threatened

Division of Real Estate and Land Management  
1952 Belcher Drive, C-4; Columbus, OH 43224-1386





George V. Vukobratovich - Governor  
 Ronald C. Anderson - Director

June 1, 1958

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JUN 10 1958

BUREAU OF LAND MANAGEMENT  
 MILWAUKEE DISTRICT OFFICE

Mr. James Dwyer  
 Field Manager  
 U.S. Dept. of the Interior  
 Bureau of Land Management  
 Milwaukee Field Office  
 P.O. Box 417  
 Milwaukee, Wisconsin 53201

RE: Milwaukee Creek Lake Fish Planning Analysis-Environmental Assessment

Dear Mr. Dwyer:

The Ohio Department of Natural Resources (ODNR) has completed a review of above referenced project located in Franklin County, Ohio. ODNR offers the following comments:

The Division of Natural Areas and Preserves reviewed the Milwaukee Creek Lake EA for the project. Several comments and suggestions were made. The numbers and letters on the list below correspond to the items marked in red and blue on the accompanying map. A dot means no exact location, a star is a general location within a square mile and a square a general location within a square mile.

MILWAUKEE CREEK QUAD

1. Great Lakes - Western Marsh, endangered
2. Shrews - Eastern Marsh, endangered
3. Great Lakes Marsh - (breeding animal concentration)
4. Great Lakes Marsh - (breeding animal concentration)
5. Great Lakes Marsh - (breeding animal concentration)
6. Great Lakes Marsh - (breeding animal concentration)
7. Great Lakes Marsh - (breeding animal concentration)
8. Great Lakes Marsh - (breeding animal concentration)
9. Great Lakes Marsh - (breeding animal concentration)
10. Great Lakes Marsh - (breeding animal concentration)

CHAMPION QUAD

- A. Milwaukee Creek Marsh (breeding animal area)
1. Marsh - Oak Swamp Plant Community
2. Great Lakes Marsh - (breeding animal concentration)
3. Marsh - (breeding animal concentration)
4. Marsh - (breeding animal concentration)

Division of Land Management  
 1911 Market Street, C-4, Columbus, OH 43224-1386



June 1, 1998

--Page 2--

As mentioned in the report (Chapter 4, Table 4.1 Resource Values and Objectives, Potential Impacts and Mitigation Measures, page 4-12), for Special Status Species, "a site specific assessment at time well is proposed" is recommended as a mitigation measure. ODNR concurs with this. Each well site should be inventoried for rare species and significant features before construction begins.

The table (4.1) goes on to mention that there will be no occupancy of state lands, that no wells/facilities will be approved within one-half mile of an active bald eagle nest or an established bald eagle nesting territory, that there are restrictions on locations where potential Indiana Bat habitat is present, and that removal of Gray Birch will be avoided. We concur with these measures. However, we believe that mitigation measures should also be specified within this section for the Eastern Massasauga and the other species and features listed above. The Mosquito Creek Floodplain (outlined in blue, letter "A" on map) is a very significant natural area, worthy of preservation. Work proposed in this area should be relocated, if possible, or disturbance kept to an absolute minimum.

Under Alternative B, Subsurface Limitations, Page B-21, #5, ODNR believes that the Division of Parks and Recreation (DPR) should be included in addition to private mineral owners. DPR has agreed to initiate licenses to permit directional drilling from private property, through the subsurface of State owned property administered by the Division, to reach federal leased minerals. It appears this may be the appropriate place to add DPR's name since a driller will need a license to drill through the subsurface that DPR outright owns.

The ODNR, Division of Oil and Gas disagrees with the statement on Page 3-14 that "The Berea was the main oil and gas reservoir in the Mecca pool, and shows of oil, gas, or other contaminants are far more common in the Berea than in the Cussewago." Based upon our review of historical records and prepared cross-sections, we believe that oil and/or gas commonly occur in both formations. Furthermore, we believe that the Cussewago was the primary oil reservoir during the early development of the Mecca field in the 1800's. On page 2-8 (paragraph 4), "2 feet by 50 feet" should read "20 feet by 50 feet."

Section 4.5 and Table D-3 in Appendix D address federal and state commitments to monitoring compliance with the existing rules, regulations and special mitigation measures developed through the environmental analysis process. The Division of Oil and Gas has consistently regarded the monitoring of site preparation, drilling, cementing, restoration and plugging activities for wells on Federal lands as a high priority. This commitment is reflected in Table D-3 which list specific activities that the Division inspector will be present to witness.

Since completion of the draft Planning Analysis/Environmental Assessment (PA/EA), the Division of Oil and Gas has become aware that declining revenues may require significant staff reductions, up to 40 percent by FY 2000, that would jeopardize our ability to maintain prior inspection commitments. Specifically, if additional funds cannot be secured between now and FY 2000, the Division of Oil and Gas will terminate its ground water investigation program. Subsequently, the Division would refer all citizen complaints alleging contamination of private water



As discussed in the report (Appendix 4 Table 4.1 Resource Values and Objectives, Potential Impacts and Mitigation Measures, page 4-12), the Special Status Species, "a very special conservation status well is proposed," is recommended as a mitigation measure. OCHS continues with this work well the should be reviewed for the species and significant habitat values within the project.

The table 4.1 goes on to mention that there will be no consequences of this work, that no wellhead will be required within the half mile of an active well or a wellhead field with existing wells, that there are restrictions on activities within the project area, that the project, and that removal of Gray Bluff will be avoided. We agree with these measures. However, we believe that the project area should also be avoided within this section for the project area and the other areas and features listed above. The proposed project area is located in the "A" on map is a very significant natural area, worthy of preservation. Work proposed in this area should be avoided, if possible, or if unavoidable, it should be avoided.

John A. Johnson, Jr., Director, Department of Fish and Game, has advised that the Division of Fish and Game (DFG) would be required to conduct an environmental impact study. DFG has agreed to conduct a study to determine whether the project area is a significant natural area. The Division of Fish and Game is currently conducting a study to determine whether the project area is a significant natural area. It is expected that the study will be completed by the Division of Fish and Game in the near future. It is expected that the study will be completed by the Division of Fish and Game in the near future. It is expected that the study will be completed by the Division of Fish and Game in the near future.

The OCHS Division of Fish and Game (DFG) has agreed to conduct a study to determine whether the project area is a significant natural area. The Division of Fish and Game is currently conducting a study to determine whether the project area is a significant natural area. It is expected that the study will be completed by the Division of Fish and Game in the near future. It is expected that the study will be completed by the Division of Fish and Game in the near future. It is expected that the study will be completed by the Division of Fish and Game in the near future.

Section 4.2 and Table 4.2 in Appendix B discuss the project area and the project area. The Division of Fish and Game (DFG) has agreed to conduct a study to determine whether the project area is a significant natural area. The Division of Fish and Game is currently conducting a study to determine whether the project area is a significant natural area. It is expected that the study will be completed by the Division of Fish and Game in the near future. It is expected that the study will be completed by the Division of Fish and Game in the near future. It is expected that the study will be completed by the Division of Fish and Game in the near future.

Section 4.3 and Table 4.3 in Appendix B discuss the project area and the project area. The Division of Fish and Game (DFG) has agreed to conduct a study to determine whether the project area is a significant natural area. The Division of Fish and Game is currently conducting a study to determine whether the project area is a significant natural area. It is expected that the study will be completed by the Division of Fish and Game in the near future. It is expected that the study will be completed by the Division of Fish and Game in the near future. It is expected that the study will be completed by the Division of Fish and Game in the near future.



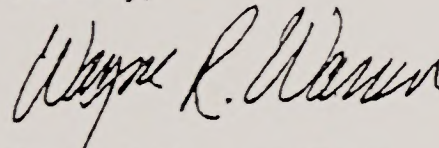
June 1, 1998

--Page 3--

supplies to the BLM or the County Health District Sanitarian. Furthermore, if the current revenue problem results in reductions in our field enforcement staff, ODNR cannot ensure that inspectors will be available to assist with specific site reviews, or that they will be available to enforce compliance with permit conditions. In light of these uncertainties, ODNR requests that all references to our inspection capability be deleted from the PA/EA.

We appreciate the opportunity to provide these comments. If you have any questions or need for additional information, please contact Kimberly A. Baker, Environmental Administrator, at 614/265-6411.

Sincerely,



Wayne R. Warren, Chief  
REALM

enclosures

cc: Jim Morris, Administration  
John Schalip, Wildlife  
Pat Jones, DNAP  
Scott Kell, Oil & Gas  
Dave Stites, Parks & Recreation



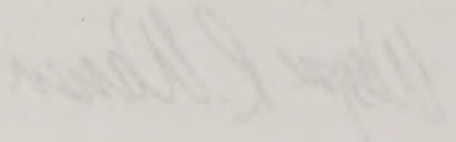
June 1, 1992

-Page 2-

submitted to the BLM or the County Health Department. Furthermore, if the current review  
finds that a substance is not a health hazard, OSHA would not have the authority to  
be available to assist with the review, or that they will be available to enforce compliance  
with certain standards. In light of these uncertainties, OSHA requests that all references to our  
involvement capability be deleted from the HAA.

We appreciate the opportunity to give the data submitted. If you have any questions or need  
for additional information, please contact Kimberly A. Baker, Environmental Administrator, at  
814-261-6411.

Sincerely,



Wayne R. Warner, Chief  
REALM

The Medical Administration  
John Schell, Wildlife  
For more info  
See Vol. 10 & 11  
Last State, Part 2, Revision





REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
PITTSBURGH DISTRICT, CORPS OF ENGINEERS  
WILLIAM S. MOORHEAD FEDERAL BUILDING  
1000 LIBERTY AVENUE  
PITTSBURGH, PA 15222-4186

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JUN 18 1998

June 12, 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

Planning Division

Mr. Chris Hanson  
Assistant Field Manager  
Division of Natural Resources Management  
Milwaukee Field Office  
Bureau of Land Management  
P.O. Box 631  
Milwaukee, Wisconsin 53201

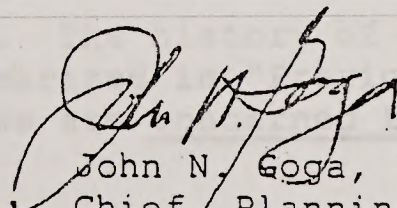
Dear Mr. Hanson:

The Pittsburgh District, U.S. Army Corps of Engineers (USACE) appreciated the opportunity to review the draft of the Mosquito Creek Lake Planning Analysis/Environmental Assessment (PA/EA). This PA/EA reviews management alternatives for leasing of Federal oil and gas resources underlying the Pittsburgh District-USACE Mosquito Creek Lake project in Trumbull County, Ohio.

The reviewers of this document in the Pittsburgh District consisted of members from our Planning, Operations and Readiness, and Real Estate Divisions, and also Mosquito Creek Lake personnel. Their comments have been compiled and are being forwarded with this letter as an attachment. We are submitting these comments for consideration by the Bureau of Land Management (BLM) to assist in the production of a quality document.

We would like to emphasize that the Corps of Engineers will not make a decision on granting consent to lease the Federal minerals until all public comments have been satisfactorily addressed and all protests have been resolved.

We remain committed to our cooperating role in the PA/EA process. If you would like to discuss these comments further or if you have any questions, please contact Mr. James Purdy at (412) 395-7224 or Ms. Maria Novak at (412) 395-7222.

  
John N. Goga, P.E.  
Chief, Planning Division

Enclosures



RECEIVED

JUN 18 1988

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

DEPARTMENT OF THE ARMY  
WATERWAYS DISTRICT, CORPS OF ENGINEERS  
WILLIAM J. MCKINNON FEDERAL BUILDING  
400 LEXINGTON AVENUE  
NEW YORK, NY 10017-4299



June 12, 1988

Planning Division

Mr. Ellis Hansen  
Assistant Field Manager  
Division of Natural Resources Management  
Milwaukee Field Office  
Bureau of Land Management  
P.O. Box 211  
Milwaukee, Wisconsin 53201

Dear Mr. Hansen:

The Pittsburgh District, U.S. Army Corps of Engineers (USACE), requested the opportunity to review the draft of the proposed Creek Lake Planning Analysis/Environmental Assessment (PA/EA). This PA/EA review management alternatives for leasing of Federal oil and gas resources underlying the Pittsburgh District-USAEC Modesto Creek Lake project in Trembly County, Ohio.

The reviewers of this document in the Pittsburgh District consist of members from our Planning, Operations and Research, and Real Estate Divisions, and also Modesto Creek Lake personnel. Their comments have been compiled and are being forwarded with this letter as an attachment. We are submitting these comments for consideration by the Bureau of Land Management (BLM) to assist in the production of a quality document.

We would like to emphasize that the Corps of Engineers will not make a decision on granting consent to lease the Federal minerals until all public comments have been satisfactorily addressed and all protests have been resolved.

We remain committed to our cooperating role in the PA/EA process. If you would like to discuss these comments further or if you have any questions, please contact Mr. James Ford at (417) 392-1234 or Mr. Maria Novak at (417) 392-7232.

*[Signature]*  
John W. Ford, P.E.  
Chief, Planning Division

Enclosure



1. Section 2.4, CRA's/CA's (Federal Agreements). It might be a good idea to add "NEPA Compliance" to the title of this section since the agreements themselves are discussed in more detail in Sections 2.1 and 2.2. Also recommended is a brief discussion comparing the process for reviewing APD's for Federal wells versus the procedures discussed for CA's and CRA's (the types of Federal agreements required for wells tapping both Federal and private resources).

2. Section 3.3, Geology. Under "Stratigraphy" on page 3-7, no mention is made of the location of the Clinton formation relative to the other formations above it. Figure 2 in Appendix C does help, but it might be a good idea to note its depth below the Cussewago Sandstone, the principal aquifer in Trumbull County.

3. Section 3.7, Biological Resources (Wetlands).

a We recommend stressing that the figures and wetlands map are approximations based on a number of sources. A statement similar to the following is recommended: "Wetland maps and acreage determinations are approximations based upon the best available information. However, they are not exact. Site specific analysis by the COE Regulatory Branch would be required for proposed well sites to determine possible wetlands impacts."

b. "Planning Area" and "Project Area" are frequently referred to in this section. These terms are defined on page 1-5 and 1-1 respectively, but it might be a good idea to add these terms to the glossary found after Appendix E for easy reference.

4. Section 3.8 - Noise. A table which summarizes existing noise levels as measured at various sites around the MCL Project would provide a good basis for comparison with Tables 3-6 and 3-7.

5. Table 4-1, Special Status Species, Page 4-12. We appreciate the recognition of disturbance to bald eagle nesting cycles as a potential impact in this section. In addition to the distance set-back mitigation measures mentioned, we would like to retain the option of making additional seasonal restrictions if site conditions warrant. For example, we may want to restrict drilling activities during the early portion of the bald eagle nesting cycle (most likely January to early February). We would coordinate with ODNR regarding the need for such a restriction and the exact timing of it.

6. Section 4.2.4, Water Resources. The history of oil and gas development in the study area is summarized in "Previous Hydrocarbon Development" on page 3-36. We are concerned that







expansion of fissures in the rock of the production zone during hydrofracing of proposed wells around the lake or directionally drilled beneath it will "reactivate" improperly plugged or abandoned wells. Activities associated with new upland wells in the Allegheny Reservoir watershed have caused abandoned and sometimes submerged wells to leak oil and gas into the reservoir. This issue is not addressed in the draft and it is one of our most serious concerns. We recommend that a determination be made as to the existence of plugged or abandoned gas wells in the planning area, particularly in the area that is now the lake bottom. If there are any wells of this type, the issue should be addressed in the PA/EA. In addition, the document should state that the issuance of any permit to drill does not authorize the driller to use "four spot" drilling/secondary recovery methods. Use of such a method at the Kinzua project lead to oil release under the water surface of Kinzua's reservoir due to the faulty plugging procedures employed prior to the development of the reservoir.

7. Section 4.2.10, Socioeconomics. Those unfamiliar with computing the economic impacts relating to oil and gas development may have questions after reading this section and reviewing Tables 4-10 and 4-11. Is the Federal royalty payment supposed to be equivalent to 12.5% of the revenue from hydrocarbon sales, as found in those tables? If so, the royalty payment figures stated in the first full paragraph on Page 4-63 seem to be underestimated. Also, are the stated figures (\$541,000 for Alt. A and \$2.629 million for Alt. B) representative of the total royalty payment, which would then be split 25%/75% between the Federal government and the state government? This issue was also raised at the public meetings on May 11 and 12. Some clarification is recommended, particularly regarding the amount of money that the County could reasonably expect to receive. Also, the last paragraph on page 4-63 refers to Table 4-12 and Table 4-13 when it should say 4-10 and 4-11.

8. Section 4.2.10, Socioeconomics. The discussion of economic impacts does not adequately address the basic question of how much revenue will flow down to Trumbull County in the event that leasing occurs. The royalty payments are estimated to be \$541,000 and 2.629 million dollars (alternative A and B respectively) which is spread over a fifty year life of the drilling program. The document does not indicate whether 75% of this flows to the local economy. In addition, the document does not address roads, etc. The estimates of "75" new jobs created is based upon applications of economic multipliers which in turn is based upon the total amount of revenue generated by the sale of the oil and gas resources. Since the production would occur over a 50 year period, the actual job impact would be







considerably less. The job impact and economic impacts at the local level would be limited to the actual cost of drilling the well and servicing them.

9. Section 4.2.12, Public Health and Safety. At the public meetings, it was clear that there was a great deal of concern regarding the capability of local emergency personnel to respond to incidents at gas well sites. Recommend that the "Impact to Local Emergency Response Capability" section on Page 4-73 be expanded to include additional detail on what type of unit they are (paid or volunteer), the equipment they have available and the level of training their personnel have received. If the local emergency response is deemed inadequate, BLM should consider funding equipment and training at the local level in support of the disaster response effort. Also, has the possibility of utilizing professionally trained and equipped emergency response teams (i.e. a team associated with the nearby Youngstown-Warren Regional Airport) been investigated?

10. Section 4.2.12, Public Health and Safety, Liability and Bonds. The statement that BLM will require additional bonding if an operator poses a risk leaves too much to the discretion of BLM. The Corps' past history at Allegheny National Forest and the clean-up costs incurred in the 1980's suggests that bonding in amounts in excess of the amounts listed is necessary. In as much as costs of plugging and site cleanup costs will be higher in the out years, the bonding amounts should be raised in anticipation of the increased costs since an operator may abandon the site and forfeit a bond in lieu of performing the site restoration.

11. Section 4.3, Cumulative Impacts. It is noted in the report that 42% of the land adjacent to and within one-half mile of the project area is considered a "natural area". Although that term is not clearly defined, it is assumed that "natural areas" are comprised of a number of different types of habitat, from meadows to forests. One of our concerns regarding oil and gas drilling at any project is the potential for habitat fragmentation, particularly involving conversion of forested land to the open areas associated with access roads and well sites. We note that this issue is addressed to some extent, but not in much detail, on page 4-44. We also feel it would be beneficial if the land use classification chart could somehow be tied in with probable well locations, recognizing that exact locations cannot be determined at this time. Is it accurate to assume that habitat fragmentation was an issue deemed beyond the scope of the EA, given lack of knowledge as to exact well locations? Or, was it determined that the total disturbed acreage is insignificant when compared to the total planning area?







12. Section 4.4, Summary of Anticipated Impacts, Table 4-15. It would be informative to indicate in Alternative B the projected royalties going to the local communities in this section of the chart.

13. Section 4.5, Monitoring.

a. Regarding short-term monitoring actions, is there any difference in the level of monitoring effort expended with regards to whether the well is draining all Federal minerals or if it is part of a Communitization Agreement or Compensatory Royalty Agreement?

b. A concern was raised at the public meetings regarding wells that are no longer producing but remain unplugged. We recommend a more thorough explanation regarding how the BLM and ODNR will assure that wells will be plugged properly once they are taken out of production. This explanation should include a discussion of steps that will be taken in plugging a well developed by an operator that subsequently goes bankrupt.

14. Appendix A - Oil and Gas Development Constraints and Special Mitigation Measures. There is inconsistency between the statement in Appendix A which mentions that certain Bazetta Township regulations will be extended to Mecca and Greene Townships and what is specifically written into the body of the PA/EA under the corresponding impacts and mitigation measures.

15. Appendix B - Reasonably Foreseeable Development Scenario. Summary 1 - RFDS Under Alternative A. The last sentence on Page B-12 states that the BLM would not be involved in permitting of any of the wells drilled under Alternative A. It might be beneficial to add a statement explaining that the BLM can attach protection measures to the Federal agreement (CRA) that would be utilized in this situation, or refer the reader to Section 2.1 of the PA/EA.

16. General Comment.. The draft PA/EA avoids the issue of containment, and disposal of saline cuttings is only addressed with a few comments like: "In addition, BLM would require segregation of all saline cuttings, if warranted." (Page 4-33, para 5), and "The fate of pit cuttings and liner would remain a negotiable item to be addressed at the time specific proposals are received. . . ." (Page 4-33, para 6). This discussion avoids any mention that the primary drilling target at Mosquito Creek Lake is the Clinton Sandstone, and to reach this formation requires drilling through the saline formation of about 750 feet of halite. The containment issue is not acknowledged in the







1. I CAN NOT SPEAK IN PUBLIC BECAUSE MY DEPARTMENT WILL BE IN MY MOUTH WHEN I SPEAK OUT ON THE SUBJECTS I AM INTERESTED IN. THAT IS A FALSE SENSE OF DUTY. I AM NOT A POLICE OFFICER SINCE I AM NOT A MEMBER OF THE POLICE DEPARTMENT. I AM A MEMBER OF THE POLICE DEPARTMENT SINCE I AM A MEMBER OF THE POLICE DEPARTMENT.

THE STATE OF NEW YORK HAS REQUESTED TO BE ADDED TO THE LIST OF STATES IN THE EAST COAST OF AFRICA AND THE MIDDLE EAST. THE STATE OF NEW YORK HAS REQUESTED TO BE ADDED TO THE LIST OF STATES IN THE EAST COAST OF AFRICA AND THE MIDDLE EAST. THE STATE OF NEW YORK HAS REQUESTED TO BE ADDED TO THE LIST OF STATES IN THE EAST COAST OF AFRICA AND THE MIDDLE EAST.



draft PA/EA; one only knows that it is a negotiable item.  
Similarly, the same group is not mentioned in the discussion  
of geology and stratigraphy.



BAZETTA TOWNSHIP FIRE DEPARTMENT  
773 EVERETT-HULL ROAD  
CORTLAND, OHIO 44410  
(330) 637-4136

RECEIVED

JUL 16 1998

BUREAU OF LAND MANAGEMENT  
MILWAUKEE DISTRICT OFFICE

JULY 10, 1998

TO WHOM IT MAY CONCERN,

WHILE REVIEWING THE MOSQUITO CREEK LAKE DRAFT PLANNING ANALYSIS/ENVIRONMENTAL ASSESSMENT THAT WAS SENT TO OUR FIRE DEPARTMENT MY ASSISTANT CHIEF AND I NOTED SEVERAL CONCERNS FOR YOU.

1. ON PAGE 4-73 UNDER "IMPACT TO LOCAL EMERGENCY RESPONSE CAPABILITY" IT STATES "IT IS NOT ANTICIPATED THAT THE ADDITIONAL WELLS WOULD REQUIRE INCREASES IN LOCAL EMERGENCY RESPONSE CAPABILITY" AND "THESE TEAMS ARE FULLY TRAINED AND HAVE THE NECESSARY SUPPLIES AND EQUIPMENT AVAILABLE FOR EMERGENCY RESPONSE."

MY ASSISTANT CHIEF IS ALSO THE ASSISTANT CHIEF OF THE TRUMBULL COUNTY HAZARDOUS MATERIALS TEAM AND IN CHECKING WITH HIM THE COUNTY HAZ-MAT TEAM, MINERAL RIDGE FIRE DEPARTMENT AND WARREN CITY FIRE DEPARTMENT HAVE VEHICLES SET UP FOR RESPONSE WITH A LIMITED AMOUNT OF SORBENTS ON THEIR VEHICLES. HUBBARD FIRE DEPARTMENT HAS TRAINED PERSONNEL TO RESPOND TO EMERGENCIES WITH VERY LIMITED EQUIPMENT AS THEY DO NOT HAVE A VEHICLE JUST FOR THAT PURPOSE.

WHEN DEALING WITH A SPILL IN BAZETTA TOWNSHIP, THE TRUMBULL COUNTY HAZ-MAT TEAM WOULD BE REQUESTED TO RESPOND. ALL OF OUR VEHICLES HAVE SPILL KITS ON BOARD THAT CAN HANDLE A SPILL UNTIL THE HAZ-MAT TEAM ARRIVES. OUR WHOLE DEPARTMENT IS TRAINED AND CERTIFIED TO THE OPERATIONS LEVEL WITH A FEW MEMBERS TRAINED TO THE TECHNICIAN LEVEL.

WE CAN NOT SPEAK FOR OTHER FIRE DEPARTMENTS. WE FEEL WE MUST SPEAK OUT ON THE ABOVE STATEMENT SO THAT A FALSE SENSE OF SECURITY IS NOT GIVEN, SINCE OUR TOWNSHIP IS ONE OF THE AREAS BEING CONSIDERED FOR THIS DRILLING.

WHILE BAZETTA FIRE DEPARTMENT HAS RESPONDED TO AND HANDLED EMERGENCIES IN THE PAST DEALING WITH GAS AND OIL WELLS, WE HAVE USED THE TRUMBULL COUNTY HAZ-MAT TEAM TO ASSIST US WITH THESE PROBLEMS AS WE ARE NOT EQUIPPED TO HANDLE A LARGE SPILL.

2. BAZETTA TOWNSHIP DOES BORDER STATE PROPERTY IN MANY LOCATIONS AND THE DRILLING SITES ARE LOCATED IN OUR JURISDICTION AND WE WILL USE THE TRUMBULL COUNTY HAZ-MAT TEAM WHEN NEEDED. THE TRUMBULL COUNTY HAZ-MAT TEAM HAS MUTUAL AID AGREEMENTS WITH OTHER TEAMS THAT CAN ASSIST THEM IF NEEDED.



RECEIVED

JUL 18 1958

BUREAU OF LAND MANAGEMENT  
WILMINGTON DISTRICT OFFICE

BALTIMORE TOWNSHIP FIRE DEPARTMENT  
TO WILMINGTON DISTRICT OFFICE  
CORTLAND, OHIO 44026  
(206) 457-4141

LET 14 1958

TO WILMINGTON DISTRICT OFFICE

RE: BALTIMORE TOWNSHIP FIRE DEPARTMENT  
ANALYSIS OF THE FIRE DEPARTMENT THAT WAS SENT TO OUR FIRE DEPARTMENT  
MY ASSISTANT CHIEF AND I WOULD BE INTERESTED IN YOUR COMMENTS

I ON PAGE 1-2 UNDER "LOCAL EMERGENCY RESPONSE CAPABILITY" IT  
STATED IT IS NOT ANTICIPATED THAT THE ADDITIONAL WELLS WOULD REQUIRE  
INCREASES IN LOCAL EMERGENCY RESPONSE CAPABILITY AND THESE TEAMS ARE  
FULLY TRAINED AND HAVE THE NECESSARY SUPPLIES AND EQUIPMENT AVAILABLE FOR  
EMERGENCY RESPONSE

MY ASSISTANT CHIEF IS ALSO THE ASSISTANT CHIEF OF THE TRUMBULL COUNTY  
FIRE DEPARTMENT AND IN CHECKING WITH HIM THE COUNTY HAS  
TEAM MEMBERS FROM THE DEPARTMENT AND WILMINGTON DISTRICT OFFICE  
VEHICLES SET UP FOR RESPONSE WITH A LIMITED AMOUNT OF PERSONNEL ON THEIR  
VEHICLES. REGARDING THE DEPARTMENT HAS TRAINED PERSONNEL TO RESPOND TO  
EMERGENCIES WITH VERY LIMITED EQUIPMENT AS THEY DO NOT HAVE A VEHICLE JUST  
FOR THAT PURPOSE

WHEN DEALING WITH A WELL IN BALTIMORE TOWNSHIP, THE TRUMBULL COUNTY HAS  
TEAM WOULD BE REQUESTED TO RESPOND. ALL OF OUR VEHICLES HAVE PUMP LITS ON  
BOARD THAT CAN HANDLE A WELL UNTIL THE TEAM ARRIVES. OUR WHOLE  
DEPARTMENT IS TRAINED AND CAPABLE TO THE OPERATING LEVEL WITH A FEW  
MEMBERS TRAINED TO THE TECHNICAL LEVEL

WE CAN NOT BEAR FOR OTHER FIRE DEPARTMENTS WE FEEL WE MUST SPEAK OUT ON  
THE MATTER THAT WE FEEL IS A FALSE SENSE OF SECURITY IS NOT GIVEN SINCE  
THE TOWNSHIP IS ONE OF THE LARGEST TOWNSHIPS FOR THE DISTRICT

WHILE BALTIMORE FIRE DEPARTMENT HAS RESPONDED TO AND HANDLED EMERGENCIES  
IN THE PAST DEALING WITH GAS AND OIL WELLS. WE HAVE USED THE TRUMBULL  
COUNTY HAS TEAM TO ASSIST US WITH THE PROBLEMS AS WE ARE NOT  
EQUIPPED TO HANDLE A LARGE WELL

BALTIMORE TOWNSHIP DOES NOT HAVE STATE PROPERTY IN MANY LOCATIONS AND THE  
DEVELOPING ARE LOCATED IN OUR JURISDICTION AND WE WILL USE THE TRUMBULL  
COUNTY HAS TEAM TO ASSIST US WITH THE PROBLEMS AS WE ARE NOT  
EQUIPPED TO HANDLE A LARGE WELL



**ADDITIONAL REFERENCES** (original list of references can be found in Draft PA/EA)

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Brown, Dave. 1998. Trumbull County Soil and Water Conservation District. Personal Communication.

Grahl, Jim. 1998. Ohio Department of Natural Resources, Division of Wildlife. Personal Communication.

Hoskins, Robert. 1998. U.S. Corps of Engineers, Pittsburgh District. Personal Communication.

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